DRUG & COSMETIC INDUSTRY

JULY, 1951

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FRANCIS CHILSON, Production Consultant
MILTON A. LESSER, Technical Editor
HARRY G. KELBLY, Raw Material Editor
FRANK CHILD III, News Editor
MAX FRANKEL, Art Director

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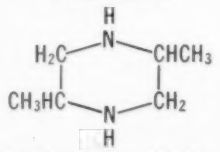

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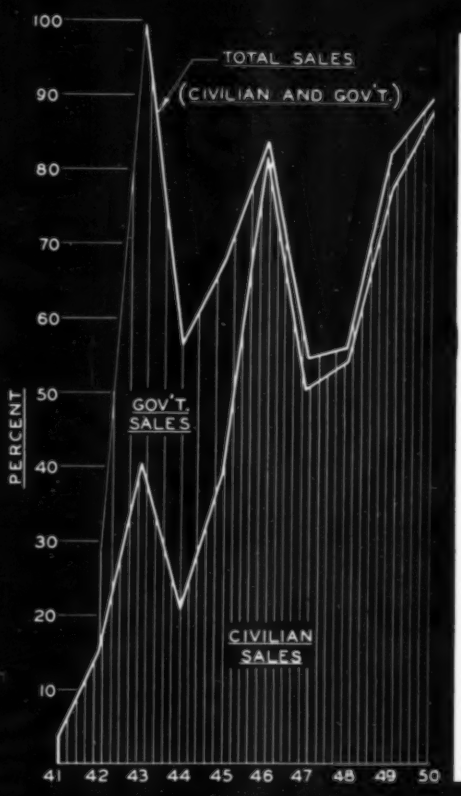

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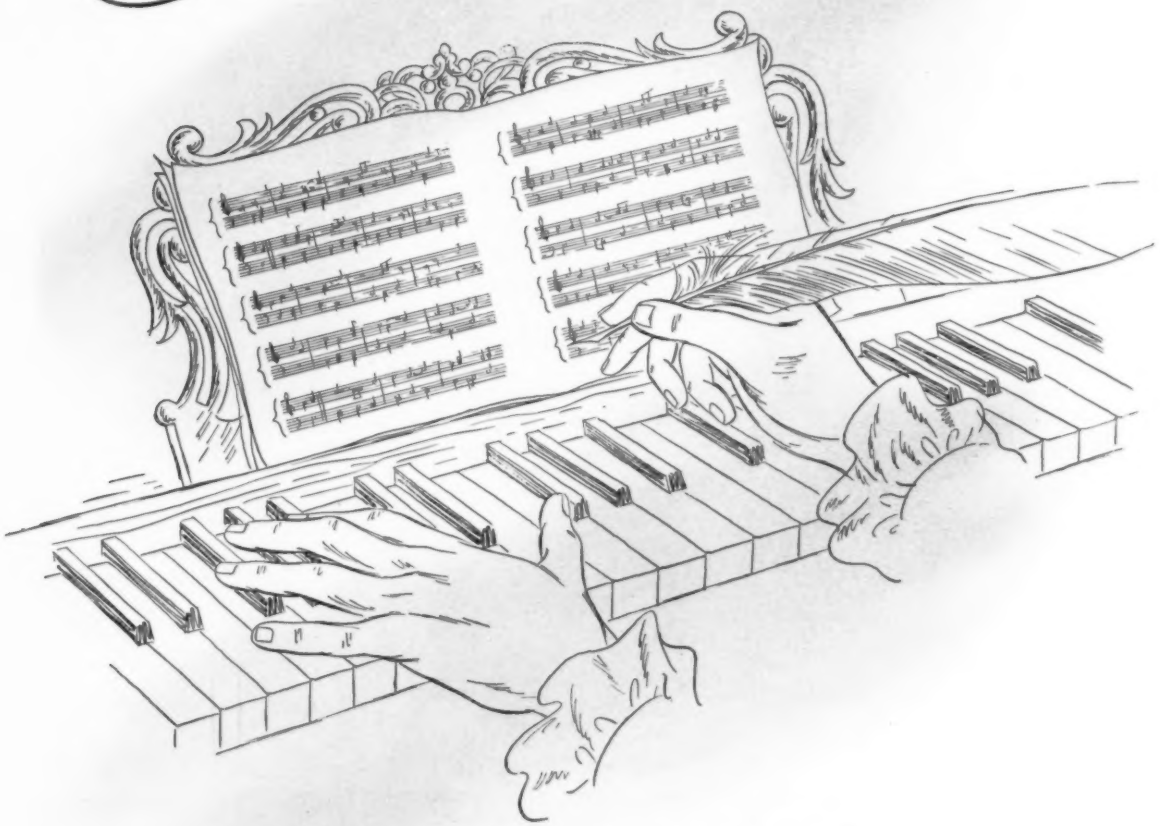

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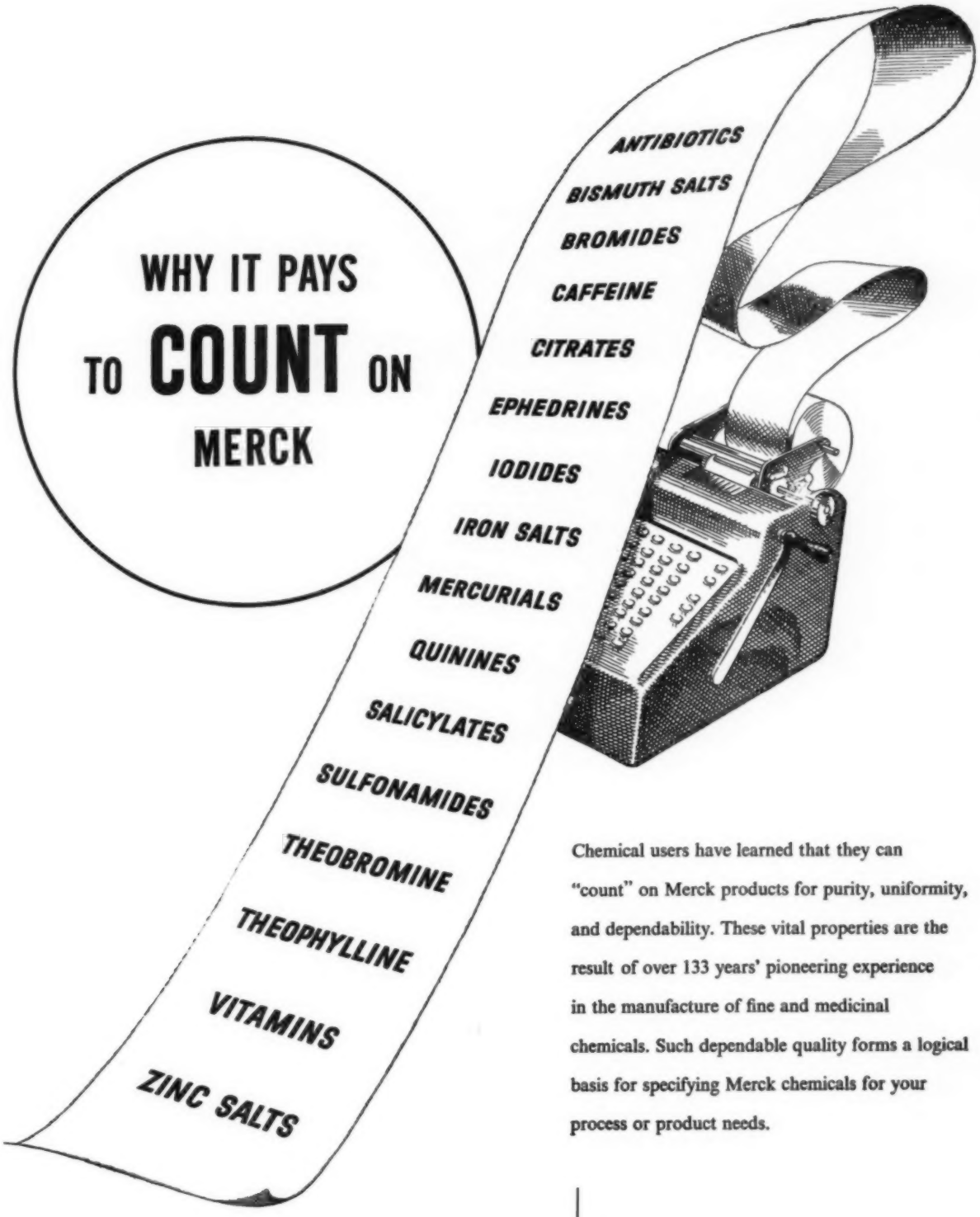

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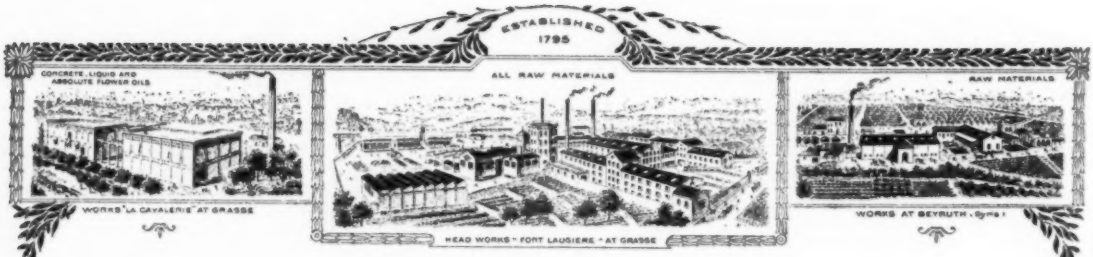

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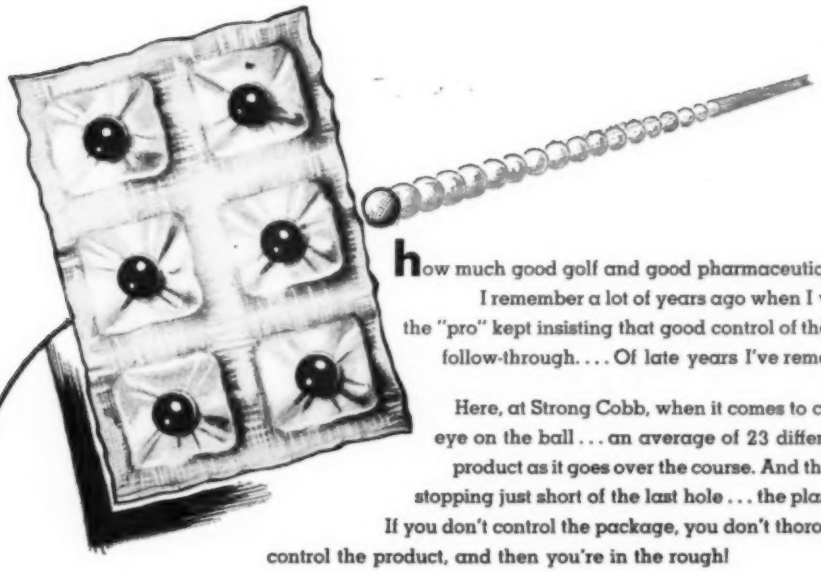

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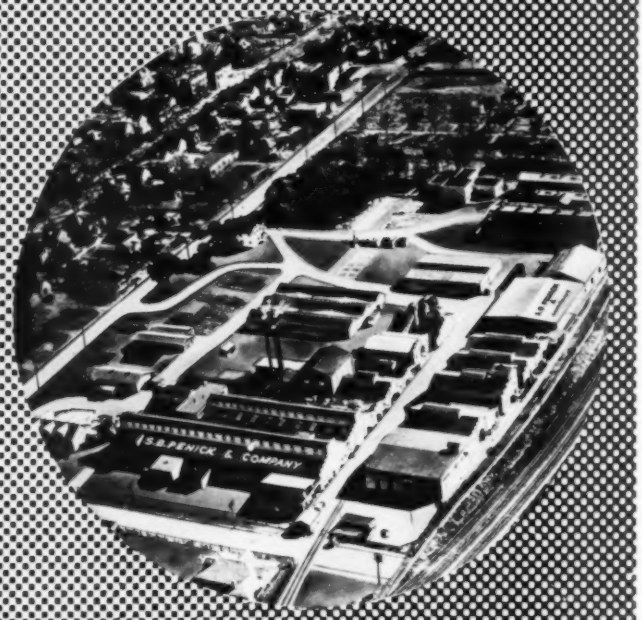

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GUMS — Penick *EVENIZED Gums are accurately processed and tested. They are tested three ways . . . for color-viscosity-adhesion . . . and checked three times . . . in the Crude—the Milling—the Milled. For that uniform and high quality so essential to your finished product, BUY PENICK, *EVENIZED TRAGACANTH, KARAYA, ARABIC.

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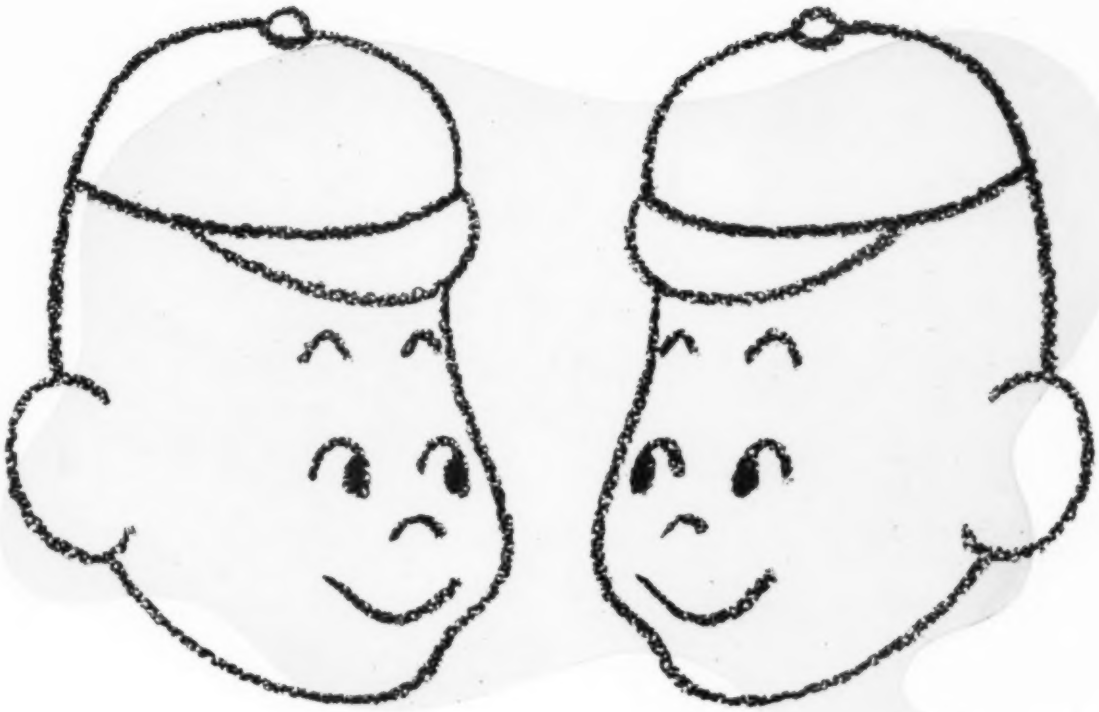

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The natural products are stable—Dreyer Floral Creations and Bouquets are very stable and easy to work with. They have lasting body and substance. Dreyer chemists have made them more uniform than Nature's scents usually are.

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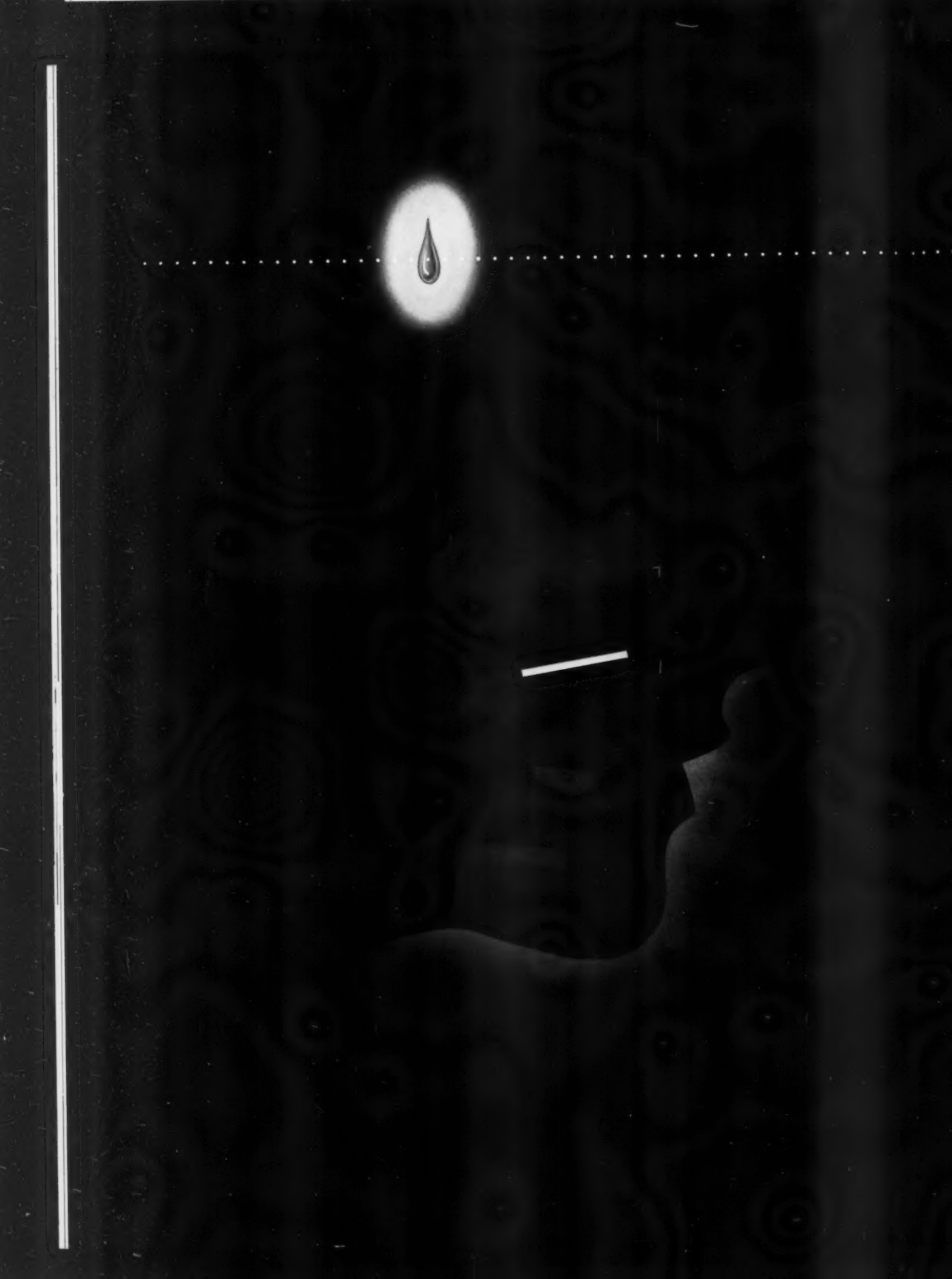

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There are many things more than precious oils and fine chemicals that go into the making of her perfume . . . not the least of these is

Imagination—

Achieving the mood . . . the effect . . . the aura SHE seeks, is the job of the accomplished, imaginative perfumer.

The van Ameringen-Haebler perfume chemists can help you create for her the fragrance she wants.

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Cosmetics need a perfume compatible with the propellent and with the material to be dispensed. We recommend these oils to meet your exacting requirements:

Lavender 938 . . (*for shave cream*) $7.75 per lb.*
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These and many other suggestions are now contained in our latest booklet: "Du Pont Perfume Oils for Aerosol Products." Send for your copy today! Whatever the product . . . whatever the odor . . . depend on Du Pont. Write E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Department, Aromatics Section, Wilmington 98, Delaware. Branch Offices: Atlanta, Boston, Charlotte, Chicago, New York, Philadelphia, Providence, San Francisco.

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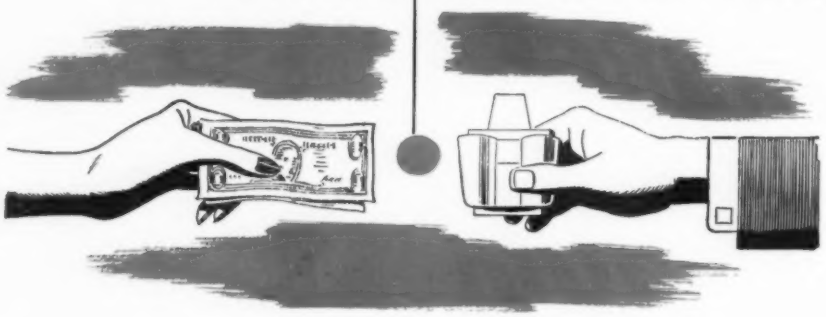

Here is a tried-and-true way to make your line even more *marketable* and *profitable* . . . use pure, stable Verona aromatic chemicals for your bases. Then your perfumes, creams, toilet waters or soaps will reach the point-of-sale . . . *proving ground of quality* . . . just as you made them . . . with their fragrances as flower-fresh and appealing as when they left your plant.

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amuskal	For freshness and life in your compound, add 1/10% to ¼% Amuskal. Produces natural Tonquin Musk effect.
ambre e-342	Add 2% to 3% of this characterful Ambre to produce the deep, sweet Ambre note for your perfume's appealing final effect.
opoponax ambre e-392	Indicated in fragrances of Oriental type; adds piquancy to the Ambre note. Use from 2% to 5%.
aldehyde e-317	Provides the top note to the first arresting fragrance. Add only ½% to 1% for surprising results.

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Pure whiteness invites the shopper to reach for a bar of soap on display. Pleasing fragrance urges her to buy. Thus sight plus scent equals sales in thousands of stores every day. That's why Coumarin Monsanto can help *your* business.

Coumarin Monsanto, used with accepted antioxidants, does not discolor white soaps when employed as a fixative for perfume oils. White soaps *stay* white, even when exposed for long periods. And perfumes hold their alluring fragrance.

Up to 1915, tonca beans and deertongue were the accepted natural sources of coumarin. Then, Monsanto laboratories captured the active ingredients of coumarin and since have produced the product under strict chemical control.

Coumarin Monsanto is a superior product of unexcelled, uniform purity; in fact, it is N. F. It comes in crystals of superlative whiteness and true aroma. It has excellent solubility and is easy and dependable to use.

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CHEMICALS — PLASTICS

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Wanted:

I want a job selling perfumes and cosmetics.

I know the cities and towns where these products are sold in worthwhile volume, where all the capable, energetic retail sellers of cosmetics are located, and where the sales expense of calling will return a profit.

When I enter the store of any of these retailers, I am sure of a welcome based on long, friendly associations. I know the folks who do the buying; more important I know the folks who do the selling. I know how to get the attention of these folks, how to get my story over without stepping on anyone's toes.

I want to do more than just send you an order which would only mean that your goods are at rest in that store. I like to sell and my idea of selling is to keep your goods moving through the store to Miss and Mrs. Public.

I would expect you to give me a clear, concise story of your product—its quality, competitive advantages and selling points. I would need to know your advertising program, so that I can build up in the mind of these retail folks the expectation of substantial consumer interest. I want also to know about your company policies so that I can win friendly admiration for your products and your company.

I can sell perfumes and cosmetics because I know the people who in turn sell them to the public.

Let me carry the kind of message which encourages retail display for your product and friendly, informed selling behind the counter and you will soon see results in increased retail orders.

I have been selling perfumes and cosmetics for over 33 years. Any good retailer will give you a reference.

My name is BEAUTY FASHION:

Do you need a top-notch, tested, retail salesman?

"It always happens ... with A NORDA ORIGINAL"

Use A NORDA ORIGINAL to give a product a distinguished difference. Put it in all your new product plans. Improve your old products with it. Give them all this smell that will sell them.

A NORDA ORIGINAL makes your products unique, distinctively yours alone. It combines spicy old favorites with subtly chosen new fragrances. It will help produce matchless best-sellers.

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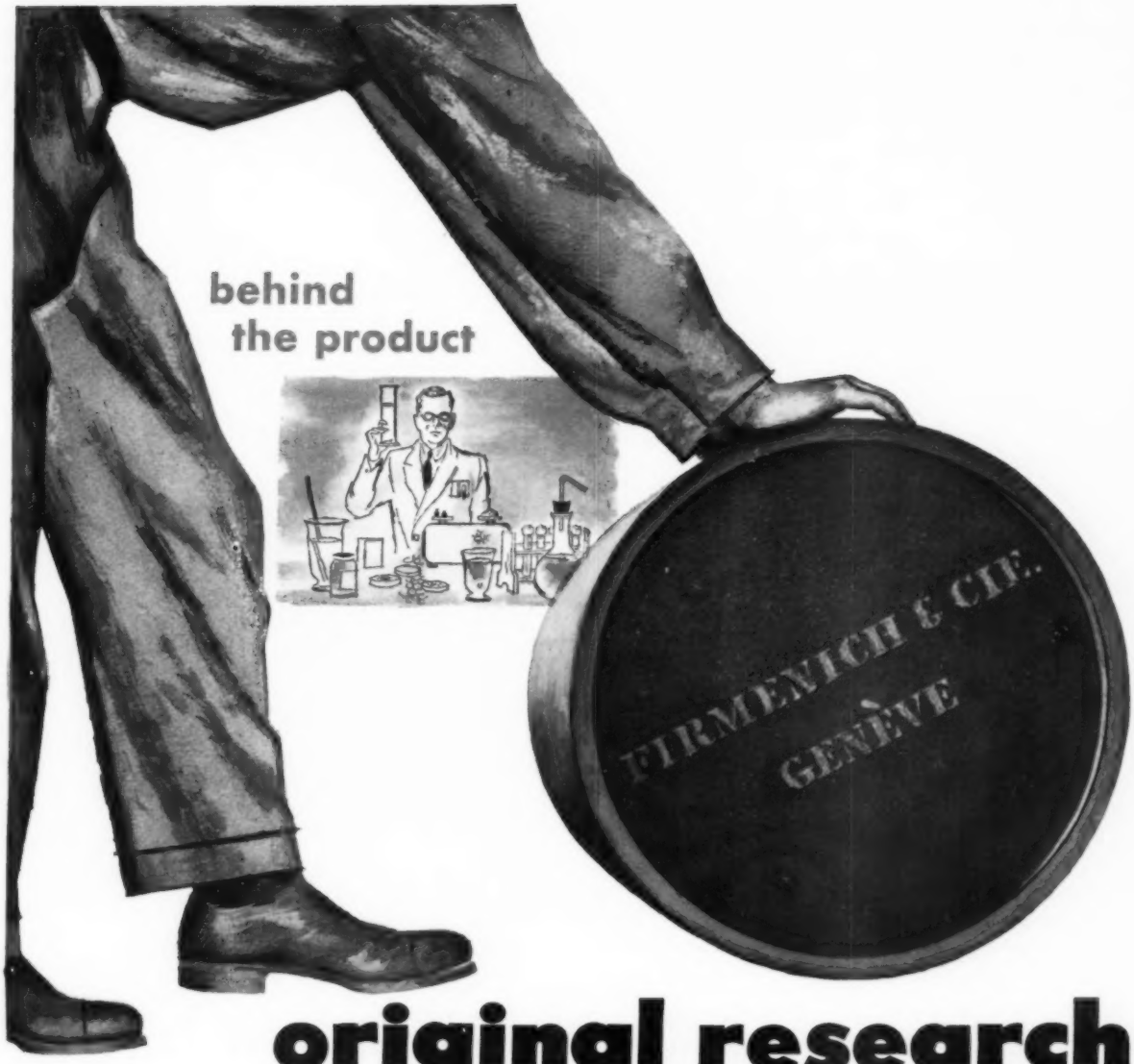

original research

In his development of truly original creations the perfumer today must rely more and more heavily, through the very nature of his work, upon new raw materials. The potentialities of existing materials have been largely explored. It is in the creation of totally new materials of superlative quality that the Firmenich research laboratories have been for many years—and are currently—unsurpassed.

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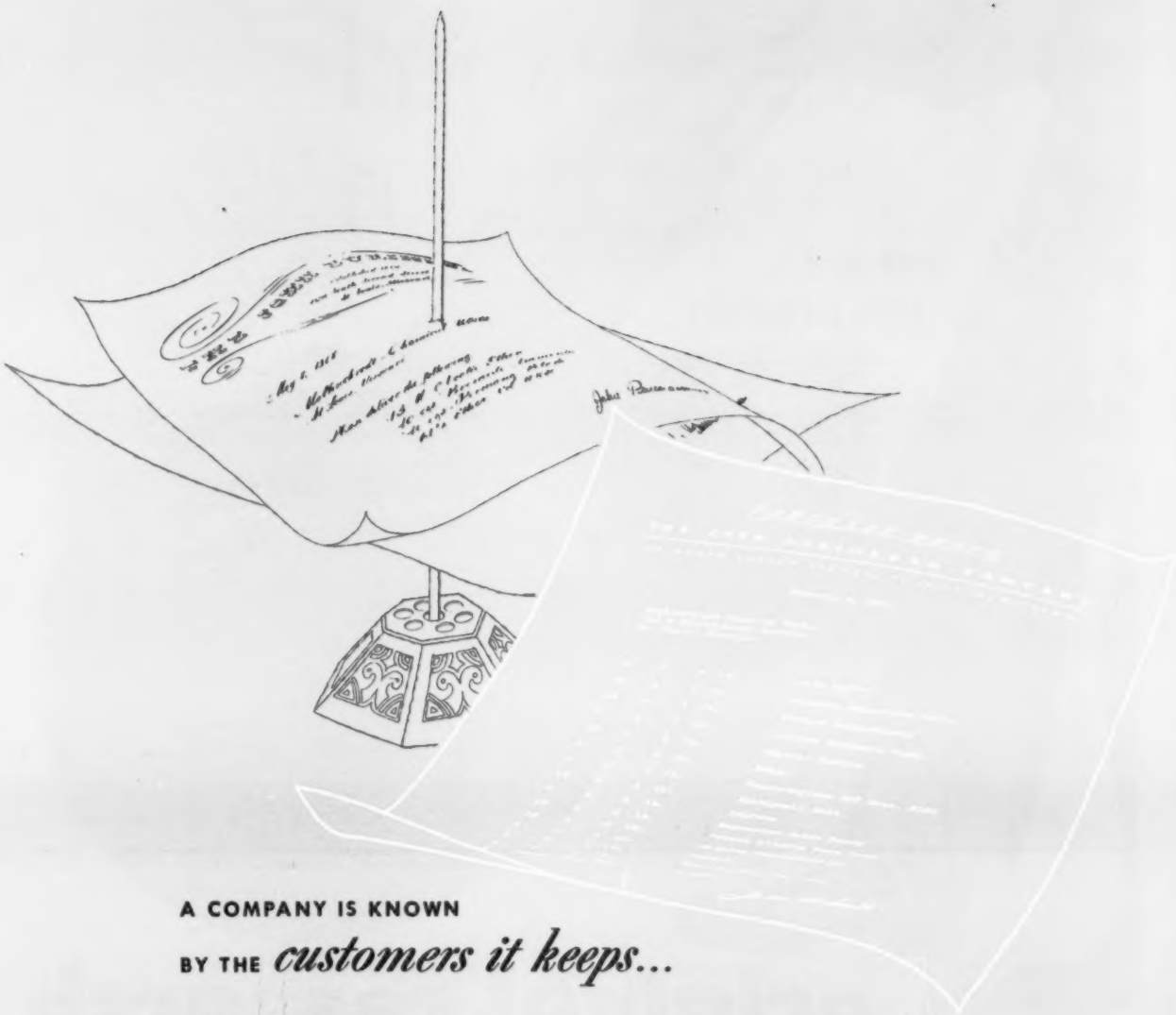

A COMPANY IS KNOWN

BY THE *customers it keeps...*

Of all the ways to measure success in business, perhaps the most revealing is *how long you keep your customers.*

For 84 years Mallinckrodt has been uncompromising in its adherence to a policy of honorable dealing, dependable service and quality products; and as a result has earned the confidence of the pharmaceutical industry through the years. Our files are filled with the names of customers who, with their antecedents, have been with us for half a century or more. The age-yellowed cards in our active customer files underscore the importance of this basic business philosophy.

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• MANUFACTURERS OF FINE CHEMICALS FOR THE PHARMACEUTICAL INDUSTRY • SINCE 1867 •

"Easy come, easy go, I always say, those guys who bought aspirin at Macy's will chew them up fast."

KEEPING POSTED

Antibiotics and Hormones

TREATMENT of various diseases through the use of antibiotics or germicides on the one hand, and hormones on the other is rapidly approaching a state of high confusion. We had been led to believe that rheumatoid arthritis was due to an insufficiency of the pituitary gland in secreting its hormones, and that relief could be obtained by supplementing this secretion with direct introduction into the system of one or more of these hormones, or by stimulating the gland to secrete greater amounts of these hormones. Now comes a study which expresses the belief that rheumatoid arthritis may result from hypersensitivity to "L organisms", a class of super-small microbes which can be eliminated by antibiotic therapy. The results of a pioneer study at George Washington University Medical School and Mt. Alto Veterans Hospital, Washington, conducted by a research group under Dr. Thomas McPherson Brown, professor of medicine at George Washington, point to the possibility of curing rheumatoid arthritis and allied disorders with antibiotics used alone or employed in conjunction with cortisone or ACTH. Aureomycin, Chloramycetin and Terramycin all proved helpful in preliminary trials with Terramycin the most effective. Rheumatic fever, which resembles rheumatoid arthritis in many ways, and which is also a disease in which cortisone and ACTH have given great promise, is due to a similar hypersensitivity to beta-hemolytic streptococcus germs, and penicillin is widely used to prevent recurrences of this disease by aborting streptococcus infections.

L organisms or PPLO (pleuropneumonia-like organisms), as they are also called, are true bacteria, but are comparable in size to viruses. They were first discovered in the lungs of cattle and are responsible for lung plague, a highly contagious form of pneumonia complicated with pleurisy occurring in livestock.

Cortisone, ACTH, pregnenolone, or any of the other hormones now being used for arthritis do not constitute cures for the conditions, but merely relieve the symptoms, and must, therefore, be constantly used. Cortisone and ACTH are thought to act by blocking "tissue response." Whenever tissue is injured in any way, an inflammatory reaction immediately sets in. Cortisone blocks the inflammatory response in experimental injuries in laboratory animals. Cortisone also blocks allergic reactions, a type of hypersensitive inflammatory tissue response; in fact cortisone is being used to treat asthma and other severe allergic diseases.

In some cases of rheumatoid arthritis, Dr. Brown reports, he has been able to obtain improvement by means of small doses of Terramycin or somewhat larger doses of Aureomycin or Chloramycetin alone. In others, antibiotic treatment had led to a flare-up in rheumatic symptoms. He attributes this to a too-rapid killing of the organisms and release into the spaces between the joint tissue cells. As a result a great many L organisms make contact at the same time with the antibodies with which the body fights such invaders, causing an exaggerated response and increased pain and swelling. However, such effects can be prevented by administering the antibiotic and cortisone together.

But this is not the end of the present conflict between hormones and antibiotics in the treatment of disease, for Frank W. Horner Limited, of Montreal, Canada, now announces work being done with a hormone which, when introduced into the body, brings about the destruction of bacteria without any help from an antibiotic or any other germicide. In fact, experimental work is to be conducted with this product on tuberculosis—a disease now being widely treated with the antibiotic, Streptomycin—and other infectious diseases, and to speed the healing of wounds. Its effects are also being studied in arthritis, diabetes, high blood pressure, and kidney disorders, according to Howden R. Horner, president of the firm.

The hormone is a pituitary factor known as Somatrofin (STH), which came into prominence several years ago as a growth stimulant when it was shown to produce "giant" laboratory animals. This application was little more than a curiosity since the hormone showed disappointing results in experiments to increase the size of dwarfs and stunted children. However, recently Dr. Hans Selye, Canadian scientist, showed in animal experiments that the STH had a "protective" action in the treatment of infections. This treatment is a radical departure from the use of drugs and antibiotics to attack responsible germs directly. Somatrofin increases the body's resistance to infection by isolating the invading germs before they can spread. Other body defenses are then stimulated to destroy those "pockets of resistance."

Dr. Leonard Mitchell, Horner research director, says, "STH is a pituitary factor that in many ways has almost the opposite effects to ACTH, although both hormones are derived from the pituitary gland. It is said to have been demonstrated that although ACTH and cortisone have dramatic and beneficial effects in many inflammatory diseases, they actually lower the body's resistance to infection. For instance, when normal

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healthy rats are injected with ACTH or cortisone they lose weight and often die from "multiple spontaneous infections." Dr. Seyle showed that this pattern could be reversed by injecting STH.

Dr. Mitchell said, "Because of its definite possibilities as an accelerating factor in wound healing, there is a good deal of interest in STH in both civilian and military surgery." Production of STH began last Summer. The source is beef pituitary glands gathered by the Canadian packing houses. Working under constantly refrigerated conditions, it is possible to extract only a single ounce of STH from about 10,000 glands.

So this is a part of the situation that now exists in the control of disease and/or bacteria by antibiotic or other germicides, and hormones. No doubt the picture will become further complicated and confused before the final answers are given but meantime the rapid pace of the production of new therapeutic agents for various diseases continues to accelerate at a still greater rate of speed.

Best Known Drug and Chemical Companies and Executives

POLLING thousands of substantial, well-informed citizens, mostly financial, whom they regard as our most eminent industrial leaders and our most outstanding corporations, Forbes Magazine comes up with the following companies for the drug business, the percentage figure being the percentage of all ballots cast for the company, and the figure in parenthesis, the standing of the company from the point of assets:

Parke, Davis, 28 per cent, (4); Merck, 25 per cent, (6); Abbott, 9 per cent, (8); Squibb, 8.5 per cent, (7); Rexall, 8.5 per cent, (5); McKesson & Robbins, 7 per cent, (1); Sharp & Dohme, 4 per cent, (10); Bristol-Myers, 3.5 per cent, (9); Sterling Drug, 3 per cent, (2); American Home Products, 2.5 per cent, (3); Vick Chemical, 1 per cent, (11).

The outstanding executives in the drug field picked by the poll are: George W. Merck, Merck chairman, 32 per cent; Henry P. Bristol, chairman, and Lee H. Bristol, president, Bristol-Myers, (combined vote), 23 per cent; Justin W. Dart, Rexall president, 14 per cent; James Hill Jr., Sterling Drug president, 7 per cent; John E. McKeen, Pfizer chairman and president, 6 per cent.

It is interesting to note that although Pfizer was not mentioned in the companies selected, the chairman and president of Pfizer, John E. McKeen was mentioned in the selection of executives, despite the fact that eleven companies are listed and only five executives, and despite the fact that all the other executives mentioned were of companies whose names appeared in the list of company selections. Apparently Mr. McKeen is more widely known in certain circles than his company, or else the executives of other companies are not nearly so widely known as their companies are.

Chemical companies named were: duPont, 61 per cent, (1); Monsanto, 12 per cent, (7); Dow, 10 per cent, (5); Union Carbide & Carbon, 6 per cent, (2); American Cyanamid, 5 per cent, (6); Eastman Kodak, 2 per cent, (4); Commercial Solvents, 1 per cent, (15); all other companies received less than one per cent of the votes they are: Mathieson, (8); Air Reduction, (10); Allied Chemical & Dye, (3); Koppers, (9); Hercules Powder, (11); International Minerals, (13); U. S. Industrial Chemicals, (14); General Aniline & Film, (12).

Chemical executives named were: C. H. Greenwalt, duPont president, 34 per cent; Edgar M. Queeny, Monsanto chairman, 23 per cent; William Rand, former Monsanto president, 9 per cent; Lamont duPont, 6 per cent; W. S. Carpenter, Jr., duPont chairman, 6 per cent; Pierre duPont, 5 per cent; C. A. Thomas, Monsanto president, 3 per cent; L. I. Doan, Dow president, 2 per cent.

F.T.C. and Advertising Allowances

FEDERAL Trade Commission trial examiners have rendered four decisions laying down a new rule regarding the payment of advertising allowances under the Robinson-Patman Act. These decisions, three applying to watch companies, and one applying to a cigar company, unless appealed, stayed, or docketed for review, will become FTC decisions. In all four instances the trial examiner found that granting advertising allowances to some customers and not making them available on proportionally equal terms to all customers is in violation of Section 2(d) of the Clayton Act as amended by the Robinson-Patman Act. In all four cases the provisional order held it to be a similar violation to grant advertising allowances "as a percentage of proportionate dollar volume" to any customer "different from the percentage or proportion" offered to competing customers. In plain language this means that advertising allowances based on volume must be offered in uniform percentage to all customers.

Medical Awards Conferred

MR. EDWARD G. Kendall and Dr. Philip S. Hench, of the Mayo Clinic, received still another award for their work in the development and use of cortisone. This time it was the Criss Award of $10,000 and gold medal for "outstanding contributions in the fields of public health and safety." The award, the largest of its kind in this country, and next to the Nobel Prize in cash value, was established by Mutual of Omaha, largest exclusive health and accident insurance company in the world. The award is not limited to medical men, but is open to anyone who has made the greatest contribution to public health or safety during the year.

Gold heart awards for outstanding contributions in the field of heart and blood vessel diseases and in furthering the program of the American Heart Association were presented to Dr. James B. Herrick, Emeritus Professor of Medicine at the University of Chicago and the University of Illinois, Dr. Frank N. Wilson, Professor of Medicine, University of Michigan, and Dr. H. M. Marvin, Associate Clinical Professor of Medicine, Yale University.

Dr. Selman A. Waksman, discoverer of streptomycin and neomycin, received the medal of the American College of Chest Physicians.

The 1951 certificate of honor of the American Academy of Tuberculosis was presented to Dr. William W. Bauer, director of the Bureau of Health Education of the American Medical Association and Editor of the AMA lay publication, Today's Health.

The Banting Memorial Medal of the American Diabetes Association was awarded to Dr. C.N.H. Long, Dean and Sterling Professor of Physiological Chemistry at Yale University School of Medicine.

The Squibb $1,000 prize for glandular studies was awarded by the Association for Study of Internal Secretions to Dr. James B. Collip, Dean and Professor of Medical Research at the University of Western Ontario, Canada.

Facts Concerning Squibb

SALES of antibiotics for the nine months ended March 31, 1951, accounted for 39.6 per cent of the total sales of E. R. Squibb & Sons, compared with 43.7 per cent of sales for the year ended June 30, 1950, and 43.3 for the year ended June 30, 1949. For the same three periods, vitamin products (other than B_{12}) accounted for 21.3 per cent, 23.1 per cent, and 20.2 per cent. B_{12} preparations accounted for 8.1 per cent, 4.6 per cent, and 0.3 per cent. Anesthetics accounted for 3.4, 3.1, and 3.7 per cent. Sulfonamides accounted for 2.2, 2.5, and 3.5 per cent, while in 1943 they accounted for 15.6 per cent. Other professional products and specialties accounted for 15.3 per cent (no single product accounted for more than 2.6 per cent), 13.1 per cent, and 18.4 per cent. Home necessities accounted for 10.1 per cent, 9.9 per cent, and 10.6 per cent (in 1941 these products accounted for 27.7 per cent).

Gross sales of the Company and its consolidated subsidiaries for the nine months ended March 31, 1951 totaled $75,285,648, compared with sales of $87,534,979 for the year ended June 30, 1950, $82,219,962 for the year ended June 30, 1949, and $73,452,172 for the year ended June 30, 1948. Net income for the nine months period was $6,957,544, for the year ended June 30, 1950, $8,057,980, and for the other two years, $6,883,927, and $3,691,778 respectively. This and other information concerning Squibb was given in connection with its recent offering of stock.

Squibb research and product development activities have been running at the rate of more than $4 million a year since January 1, 1951. These studies embrace search for new antibiotics and synthetic products for the chemotherapy of tuberculosis and other bacterial, viral, fungal, and protozoan diseases, hypertension, cardiovascular disorders, anesthetics, analgesics, striated muscle relaxants, antispasmodics, search for substances having cortisone or cortisone-like activity, ACTH, nutrition, and process improvements for the manufacture of penicillin, streptomycin, dihydrostreptomycin, and vitamin B_{12}, among others. An extensive program of grants and fellowships in this country and abroad is also maintained.

Investment in antibiotic plants in this country, exclusive of the cost of the land was approximately $12 million on March 31, 1951. Much of the extraction equipment is not adaptable for conversion from manufacture of one antibiotic to another, but the fermentation equipment may readily be converted. These facilities are being expanded, and construction to cost $3,472,000 has been certified as necessary to the extent of 60 per cent by the DPA.

Squibb plants consist of the Brooklyn laboratories for manufacture, storage research, branch distribution and plant services, occupying an area of more than two acres, upon which are five reinforced concrete buildings, two of 13 stories, one of 12 stories, two of 7 stories, and seven brick buildings of heights varying from 2 to 8 stories. Gross cost of these buildings was approximately $3 million, and floor area is 563,000 square feet.

The New Brunswick (N.J.) plant and laboratories are located on an 85-acre plot. There are 67 individual buildings of varying types of construction with floor area of 622,700 square feet. Two concrete and steel buildings, constructed in 1943 and having a floor area of 178,800 square feet, are used for production of penicillin, streptomycin, and dihydrostreptomycin. Other facilities are used for research and development, chemical and biological manufacture, storage and plant services, and include an ether manufacturing plant, an antibiotic plant, and maintenance buildings. Gross cost of the New Brunswick buildings was approximately $8,840,000. In process of construction are additions to the antibiotic plant, expansion of plant services, construction of a solvent recovery plant, and expansion of research and development facilities.

Squibb holds a lease which can be renewed to run 71 years more, on an eight-story building in Long Island City. Constructed of steel and brick, and with a floor area of 421,000 square feet, this building houses the manufacturing, warehousing, shipping and accounting services of Lentheric, Incorporated, and of Globe Collapsible Tube Corporation (wholly-owned subsidiaries). Office space is also leased to E. R. Squibb & Sons International Corporation. This building also houses Squibb's general accounting, and printing department and part of the sales and advertising departments and provides sizable warehouse and shipping facilities.

The company owns 3.7 acres of land in Los Angeles upon which stands a one-story reinforced concrete building with floor area of 41,000 square feet. Domestic branch offices for sales and warehousing in addition to those in Brooklyn and Los Angeles, are located in Atlanta, Boston, Chicago, Cleveland, Houston, Kansas City, Mo., Minneapolis, Philadelphia, San Francisco, Seattle, and St. Louis in leased premises, and a sales office is maintained in Detroit.

Squibb Properties Corporation, a wholly-owned subsidiary, owns 68 per cent of the stock of the Jones Estate Corporation, which in turn owns the Squibb Building at Fifth Avenue and 58th Street, New York, in which the executive offices of the company are located. The building is subject to a first mortgage of $5,143,000. The Company uses 43,437 square feet, of the 345,000 square feet of rentable floor space in the 34-story building.

E. R. Squibb & Sons Argentina, S.A. (a nonconsolidated subsidiary) owns a site of 22.85 acres in Buenos Aires on which is constructed a plant for office, sales, warehouse, and general manufacturing facilities, including penicillin, consisting of 5 modern buildings of 1- and 2-story reinforced concrete, brick and masonry construction, and on which it expects to construct two more buildings and one addition to an existing building, of similar construction, to provide an aggregate of 164,025 square feet of floor space. As of March 31, 1951, the amount expended and estimated to be expended for this plant was $6,845,000.

Certain consolidated subsidiaries own a total of 17.28 acres in Sao Paulo, Mexico City, Havana, Lima, and Caracas upon which are constructed or in course of construction a total of 11 modern 1-, 2- and 3-story reinforced concrete and masonry buildings, having an aggregate floor space of approximately 226,250 square feet, for office, sales, warehouse, and limited manufacturing facilities. The actual or estimated future cost of such land, plant and equipment totals $4 million. One of the subsidiaries owns 5.1 acres in Istanbul, and another is negotiating for land in Cali, upon each of which will be erected a modern plant to provide office, sales, warehouse and limited manufacturing facilities at a total cost for both of $875,000. Leased space is also maintained in Montreal, Speke (Liverpool), and Montevideo, as well as in other cities in Brazil and Colombia, in Regina (Canada), San Juan, and Manila.

Lentheric S.A. owns property at Puteaux near Paris, France, on which stand facilities for manufacturing, packaging, warehousing and shipping, together with office space. The plant consists of 7 structures of various size with floor space of 27,600 square feet. At 245 Rue St. Honore, Paris, the company also has a 5-story build-

ing where it maintains a retail salon and administrative offices.

Foreign sale of Squibb products for the year ending June 30, 1950, represented 35 per cent of sales, exclusive of Lentheric. Total foreign sales of Squibb products for the nine months ended March 31, 1951, accounted for 55 per cent of consolidated net profits after taxes for the period.

Squibb and its consolidated subsidiaries employ approximately 8,000 persons, of whom 6,700 are employed in the United States.

Medical Research Opportunities

THE SIX greatest immediate medicinal research opportunities are in the fields of antibiotics, arthritic remedies, antihistamines, cancer remedies, hormones and heart disease, according to a survey of American physicians made recently by Chas. Pfizer & Co., says Thomas J. Winn, sales manager of Pfizer's Antibiotic Division.

Law to Legalize Freight Equalization

THE SENATE Judiciary Committee has unanimously reported for enactment S. 719 which amends the Robinson-Patman Act for clarification of its delivered price provisions. The bill adds the following paragraph to section 2 of the Clayton Act, as amended by the Robinson-Patman Act.

"(g) In any proceeding involving an alleged violation of this section, it shall be a complete defense to a charge of discrimination in price or services or facilities furnished for the seller to show that his differential in price, or his furnishing of greater services or facilities, was made in good faith to meet the equally low price of, or the equally extensive services or facilities furnished by, a competitor: Provided, That a seller shall not be deemed to have acted in good faith if he knew or should have known that the lower price or more extensive services of facilities which he met were in fact unlawful."

The committee report states that the primary purpose of this bill is to conform statutory law to the interpretation of section 2 of the Clayton Act, as amended by the Robinson-Patman Act, recently enunciated by the Supreme Court in Standard Oil Company v. Federal Trade Commission. The report also says "This bill will also end the freight absorption controversy insofar as the Clayton Act is concerned."

When introducing this bill the chairman of the Judiciary Committee said:

"Senators will remember that I recently discussed the Supreme Court decision in the Standard Oil Case. The bill that I have just introduced would reaffirm the doctrine of that decision, and write it into permanent law. This bill, Mr. President, borrows from the language of the Court itself, in the Standard Oil case. It does not change the doctrine laid down in that case. It does not extend it, or contract it. It merely asserts, in statutory form, what the Court, in the Standard Oil case, declared to be law."

At the same time Senator Johnson of Colorado, chairman of the Committee on Interstate and Foreign Commerce and a composor of the bill, added these remarks:

"My concern in this matter relates primarily to freight absorption. This bill applies to a seller lowering his price in good faith to meet a competitor's lower price. This is a complete solution to the freight absorption problem, as far as the Clayton Act is concerned, for freight absorption is merely one means by which a seller reduced his price to meet the lower price of competitor. Whenever a seller absorbs freight to meet the lower price of a competitor who is located nearer to the buyer he is not doing anything other than to reduce his price to meet the equally low price of a competitor."

Japan Ups Penicillin Output

JAPAN'S plans for production of 12 trillion units of penicillin a year got off to a flying start in the first month of the fiscal year when 1 trillion units were produced in April. A substantial percentage of this production is being shipped to Thailand, Indonesia, the Philippines, Burma, Singapore, Hongkong, the Republic of Korea, and various other foreign countries. The number of manufacturers of penicillin in Japan has declined from 40 to a current 23. The drug is presently priced less than $2 per 3 million units, which is about 7 cents per hundred thousand units. This is to be compared with a price in this country of about 3 cents per hundred thousand units for bulk penicillin.

Protests F.D.A. Nutrilite Release

MYTINGER & Casselberry, Inc., distributors of Nutrilite Food Supplement, have protested to the Food and Drug Administration, and to the Federal Security Administration, the press release issued by FDA holding the Mytinger & Casselberry action as a horrible example upon which to base a warning of "health hazard in house-to-house sale of medical and diet products." We commented on this in our June issue.

In a letter to the Commissioner of Food and Drugs, a copy of which was sent to the Federal Security Administrator on May 31, Charles S. Rhyme (Washington) of Mytinger & Casselberry counsel, has the following to say in his letter. (The Mr. Janssen referred to is Wallace F. Janssen, who recently resigned from F. D. C. Reports to become "assistant to the Commissioner of Food and Drugs for public relations.")

"As has been noted, there was an understanding among Counsel that neither the United States Government nor Mytinger & Casselberry, Inc., would release any publicity in regard to the Final Consent Decree signed by Judge Harrison after approval of all parties. Of course we fully realized that the Administration had a duty under Section 705(a) of the Food, Drug, and Cosmetic Act (21 u.s.c. 375) to report *all* decrees and judgments under the Act, but we erroneously believed that any such publicity in regard to the Final Consent Decree would be accurately reported and would not receive any *special* consideration or treatment.

"Page 3 of the release issued by Mr. Janssen's office does contain a summary, such as it is, of the Decree, but as you will observe, it is not only misleading, but actually false. In the first place, it should be noted that this summary is listed under the heading appearing on page 1 'Convictions in April, 1951,—Violation of the Federal Food, Drug, and Cosmetic Act,' and the summary itself refers to Nutrilite Food Supplement as 'being misbranded with false and misleading therapeutic claims.' The final Consent Decree entered in the United States District Court for the Southern District of California does not find that Mytinger & Casselberry, Inc., or any other party has been convicted for violations of the Federal Food, Drug, and Cosmetic Act. The first paragraph of that Final Consent Decree specifically recites that the Decree is entered 'without any finding by the Court on any issue of fact or law.' Certainly, no determination as

to your misbranding charges was made, nor were any findings made against you on the defense claims that you had acted arbitrarily, capriciously, oppressively and in violation of law. Since the Court did not enter any findings relative to any issues or fact or law, the Decree cannot be summarized as finding 'Nutrilite Food Supplement misbranded with false and misleading therapeutic claims' as you have done. Furthermore, the summary on page 5 refers to 'Injunction Decree' and in its relationship to the summary creates the impression that an actual Final Consent Decree was issued after a full-fledged trial on all the issues of fact and law involved in the case, which, to say the least, were manifold. The truth of the matter is, as you well know, that the Decree is a 'Final Consent Decree' entered upon the mutual consent of all parties without any findings of any fact or law. Any statement that the Court found or the Food and Drug Administration established that false therapeutic claims were made is palpably and maliciously false.

"It might be noted that the summary on page 5 does not comply with the provisions of Section 705 for another reason. No mention is made of the dismissal of the criminal indictment or the termination of the libel proceedings, without a judgment in favor of the United States.

"While the summary on page 5 of the news release is sufficiently false and misleading to warrant out formal protest, the first two pages of the release, which are devoted almost exclusively to the Nutrilite case, contain serious, false and misleading statements, innuendos and references. We observe that Mr. Janssen apparently attributes to you a warning relative to the manner in which Nutrilite Food Supplement is distributed. Although we have believed for over two years that the primary objection of the Food and Drug Administration was to the manner of distribution of Nutrilite Food Supplement, we have never before been able to obtain the admissions of the Food and Drug officials that this is your real objection. Of course, you are completely cognizant that the manner of distribution of Nutrilite Food Supplement, while perhaps obnoxious to retail drug establishments and pharmaceutical houses, is not, in itself, a violation of the Food, Drug, and Cosmetic Act, and no such charge has ever been made in any of the 12 complaints filed in the Courts at your instigation. There is nothing in that Act which authorizes you to make personal attacks in press releases on any subject untouched by the provisions of the Act. From previous experience you know the effect of such attacks and you certainly know the Act does not authorize them. You are authorized by the Act to make charges in Court which you can prove are violations of the Act and you are not authorized to reach out and attack methods of distribution of any vitamin and mineral product.

"On page 2 of the publicity release it is stated that:

" 'Evidence was gathered by FDA inspectors acting as Nutrilite salesmen and customers who obtained recordings of sales talks made by other agents. The national distributor consented to the Decree after seeing transcripts of the recordings.'

"While each sentence in the above quotation is technically accurate, the juxta-position of the remarks is obviously intended to lead to the conclusion that Mytinger & Casselberry, Inc., consented to the Decree *because* of the secret recordings which were obtained by the Food and Drug Administration. This is false. The recordings were not seriously considered by Mytinger & Casselberry, Inc., when authorizing their attorneys to enter into settlement negotiations, as they were advised that the recordings were inadmissible in any court. I would also like to point out that copies of the transcripts were never supplied to us until May 11th, 1951, more than a month after the Final Consent Decree was entered. Counsel did see some of the transcripts but our clients have actually seen them for the first time in California less than a week ago. We would not state your reasons for consenting to the Decree and do not know whether the recordings were your major consideration.

"Also, your reference to the recordings is certainly not a 'summary' of the Decree, as the Decree does not mention the recordings and many of the other things in your press release.

"Although reference is made in two instances to the fact that the Decree was a Consent Decree and represented a 'settlement,' these references are merely casual and create the vicious impression that Mytinger & Casselberry, Inc., had no other alternative. The author of the press release, who seems to have a flair for fiction, seems oblivious to the fact that the very essence of the Decree is that it is a 'Consent' Decree which was made possible only when both sides gave considerable ground in their factual and legal contentions. Suffice it to say, this Consent Decree was entered only after an extensive period of amicable negotiations by all Counsel. Since the entry of the Decree, the amicable relationship initiated and mutual understanding developed during the settlement conferences have continued between all parties and Counsel. The press release of May 22, 1951, is the first departure from that accord and, in our view, represents a serious one, because of the serious impact it has had upon the business of my client who has been making every effort to expedite detailed compliance with the terms of the Decree."

The Edwin Leigh Newcomb Memorial Fund

THE COMMITTEE acting for the drug and related industries to honor Dr. Edwin L. Newcomb has made its final report on The Edwin Leigh Newcomb Memorial Fund. The money collected for the fund totaling $16,545.05 was turned over to the American Foundation for Pharmaceutical Education, which organization added a like amount from its own funds to make the total amount $33,090.10. This sum is to be invested and administered by the Foundation and the income therefrom is to be used to encourage study and research in pharmaceutical botany and pharmacognosy.

Packing House Drug Supplies

LEADING meat packers having pharmaceutical departments making pharmaceutical products such as the various forms of ACTH, thyroid, insulin, and liver, anticipated the current meat shortage and built an inventory to protect users of these products. Norman Draper, managing director, American Meat Institute, says that after a careful survey of the leading manufacturers of these products, he finds that there is an ample supply for the immediate future. "If the shortage is prolonged, this will not be sufficient," he said, "But as many of these firms that make these products have packing plants other than in Chicago, the glands will be carefully packed for shipments to the processing departments here. During the war this program was followed and did much to maintain the output of various firms. Their past experience has also been of value, with today's inventory the result."

Black Star Photo

THE FAIR TRADE PUZZLE

FAIR Trade activities in this country are in a complete state of confusion as a result of the decision of the U. S. Supreme Court outlawing control of non-signers of Fair Trade contracts across state lines by the Miller-Tydings Act. We predicted in our February issue that if this decision were handed down by the Court, Fair Trade, as it then existed, would "be struck a mortal blow." Anyone who believes this has not happened should just take time to consider the conditions which existed in Fair Trade in February, and the conditions which exist today. Fair Trade as we knew it for the fourteen years—1937 to 1951—when the Miller-Tydings Act was fully effective, is gone, and it appears that it will not be brought back in the foreseeable future.

As long as the State Fair Trade Acts remain on the statute books of the forty-five states which have enacted them, some degree of Fair Trade control over prices will be possible, but this will be quite limited. Furthermore, with the U. S. Supreme Court pointing the way, sniping at many of the provisions of these acts in various states will probably be indulged in, with various provisions of these acts continually being brought

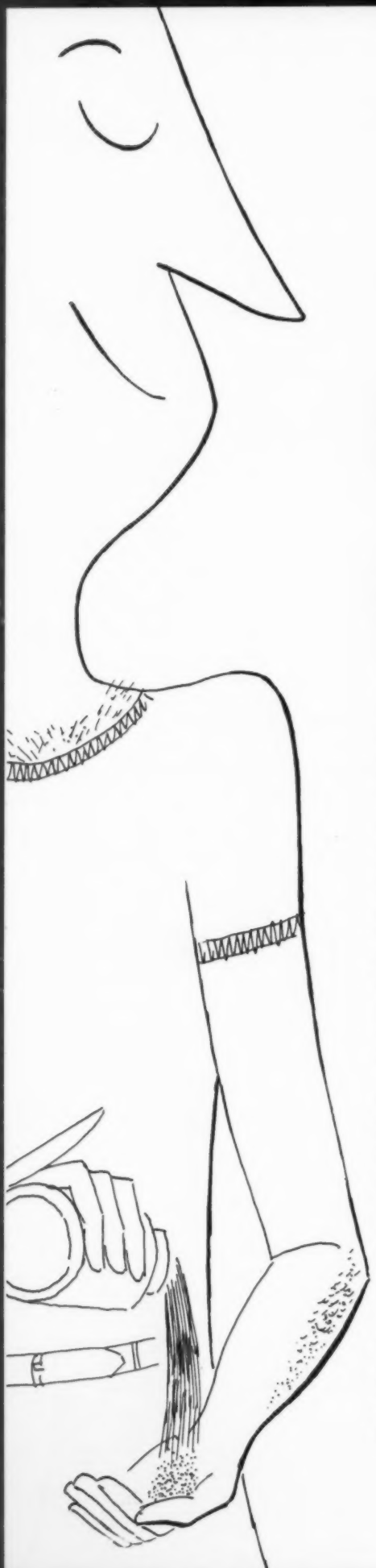
into court for adjudication. It is quite possible that these acts might be seriously weakened in several respects in various states under such conditions. This means that the Fair Trade program is now subject to nothing but weakening influences. It can never be brought back to its high point of effectiveness which existed before the decision in the Schwegmann case, but it can very definitely sink to a still lower degree of effectiveness as time goes on.

The breakdown in Fair Trade indicated by the continuing battle on the part of the large department stores and others to publish long lists of products being sold at sharply cut prices, will most certainly have its effect on the merchants of the main streets of outlying towns and villages who have long been able to get the trade away from the big stores because of the lack of difference in prices. An advertisement by Gimbel Brothers in New York offering a bottle of 100 tablets of Bayer's Aspirin at 8 cents, brought such sharp retaliation from Macy and others that the price was beaten down to 4 cents before the day was over. The sales of this product effected by these stores will most certainly have an effect upon the neighborhood druggists within considerable distance of these stores. Not only will these druggists be affected by the sales of this one item, but they will likewise be affected by the sales of other drug store items handled in these stores when people came in to take advantage of this low price on Aspirin. This is for the reason that the counters of these stores contained products not so drastically cut, but still below the levels at which they have long been available elsewhere, and also because these counters—particularly Macy's—were loaded with private brand merchandise at relatively low prices.

The sales of nationally known kitchen mixers at little more than half their Fair Trade prices, of toasters, irons, and other small appliances similarly priced have been terrific in number, and these sales are certain to be felt by the main street stores of the nearby towns and villages as well as by the neighborhood stores of New York and other cities.

Men's Summer suits of well-known brands were used as ammunition in this price war and, here also, the volume of sales was extremely high and specialty shops are bound to be seriously affected. Many of

(*Continued on page 126*)



By Harry Hilfer

MEN'S TOILETRIES

MEN'S Lines Preparations seems to fluctuate in popularity over a wide range, without any particular pattern. There was a period during the last war in which their popularity reached a peak which was followed by a sudden falling off in favor. At the present time, the curve appears to be on the ascendency. In the current trend, however, there appears to be a broadening of the scope usually encompassed by these preparations and an increasing emphasis is now placed on materials not ordinarily included in men's lines.

The materials usually thought of specifically for men's lines were shaving creams, after shave lotion and a hair dressing. In the newer trend emphasis is being placed on deodorants and anti-perspirants, shampoos, and preparations suitable for camping trips, such as insect repellents and sun tan preparations as well. These new preparations aside from their formulation show a greater originality in packaging, which may cause them to be more firmly adopted than have their predecessors in the past. Also some of these preparations are being suggested for purposes in addition to the prime uses for which they are being advertised.

Perhaps the greatest innovations have been in the anti-perspirant and deodorant phase. In men's lines these have been marketed in two rather distinct fashions. The introduction of the polyethylene bottle has caused a number of manufacturers to adopt a liquid preparation as a medium of easy dispensing. At least one manufacturer has adopted it for an anti-perspirant pointed towards men. Many of the technical men who have investigated the properties of the various anti-perspirants in the different vehicles in which they are reaching the market are of the opinion that the addition of lipoid-like substances necessary in the proper formulation of a cream, have a somewhat deleterious effect on their efficiency as antiperspirants. These substances are largely eliminated in preparations where the aluminum salts are solubilized in a water-alcohol mixture, and from that standpoint a product

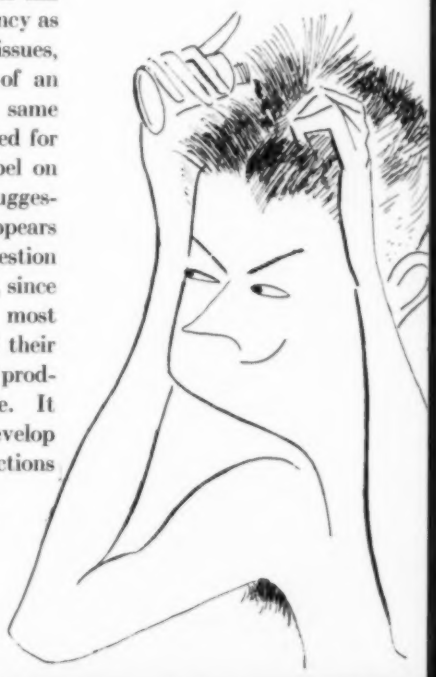
of greater efficiency may be expected. Many men are rather prone to look with disfavor on creams because they are ordinarily somewhat stiff and therefore some care would have to be exercised in their administration. Application by spraying eliminates this objection fairly thoroughly.

The fact that the container itself is non-breakable would forestall the possibility of the preparation falling into disfavor because of accidental dropping on a hard bathroom floor. The introduction of such a preparation therefore seems to take care of all eventualities. The most popular agency now in use seems to be the aluminum chlorhydroxide complex. Its choice as the effective agent is dictated by its easy solubility in water and alcohol as well as its relatively high pH. However, the choices of an effective agency need not be limited to this material since aluminum sulfate and other aluminum salts properly buffered may be used as well. Incorporation of the perfume oils may be effected by a high enough concentration of alcohol or by the incorporation of any of a number of solubilizing agencies available commercially. Many of these aluminum salts are covered by patents. This patent literature should therefore be investigated before a decision is made.

A second type of deodorant is the product which depends upon a bacteriostatic agency as a means of prevention of odors associated with perspiration. These agencies have been and are being used for the cologne deodorants now on the market and have been incorporated into men's preparations which may be used in a similar fashion. This second type need not conflict with the anti-perspirant since there are a good number of men whose tendency towards perspiration is not great enough to cause them to use anti-perspirants as such, but whose needs would be served by an effective bacteriostatic agency which would halt the bacteriums role in the promotion of malodorous perspiration breakdown products. There are a large number of suitable bacteriostatic agencies which may be used in this connection, including quaternary ammonium compounds as well as chlorinated aromatic compounds. Theoretically, at least, the best behaving agencies are those which are somewhat substantive to the skin so that they may not be easily removed by solutions and subsequent washing away by perspiration. These preparations are capable of good efficiency and are coming into greater general use, but their concentration in solution must be guided by their propensity towards irritation. This problem is a common one with all bacteriostatic agencies, and in some of them the band between bacteriostasis and irritation may be too narrow to allow them to be used. In many others, however, the band is quite a wide one and they may be used with impunity. The quaternary ammonium compounds particularly serve a useful function in this regard, but here again the effective bacteriostatic concentration must be balanced against the minimum irritational concentrations. There are a large number of these compounds available, but their characteristics are by no means the same.

At least one manufacturer has utilized a bacteriostatic agency as a means of sterilizing the tissues, as one of the properties of an after shave lotion. This same property may also be utilized for use as a deodorant. A label on the package contains a suggestion to this effect. This appears to be a rather good suggestion for any men's line product, since it is fairly certain that most men would rather have all their toilet needs confined to one product if it would be possible. It would appear logical to develop other products whose functions may serve dual purposes.

(Continued on page 115)



By Victor Di Giacomo
Givaudan-Delawanna, Inc.

PERFUMING AEROSOLS*

EVERY product that requires perfume in order to enhance its appeal, or to mask an unpleasant odor, or to simulate a known fragrance, presents specific problems that are not encountered with the same intensity, in the same form, or at all, in other aspects of perfumery. The possibilities of sensitization are greater in creams than in powders, and the large amount of surface exposure involves problems of oxidation in the perfuming of powder to a greater extent than in most other cosmetics.

The advent of the aerosol brought forward new and challenging concepts for the perfumer. It was impossible, as many learned by experience, to impart a pleasant perfume mixture that was effective in a lipstick or a hair oil, and expect it to give equally good results in an aerosol.

It was our aim to determine the nature of the problems encountered in aerosol perfumery, and the types of essential oils, aromatic chemicals, and mixtures thereof, that would be effective for aerosols. In order to conduct experimental work on this problem, a laboratory, which we believe to be unique, was set up. In this laboratory the usual aromatic materials and mixtures are available; there are cylinders which contain the propellents heretofore used in aerosols; the various types of containers and their individual parts, the active ingredients for aerosol packaging, the solubilizing and emulsifying agents, and the equipment for manufacturing the package itself are all available. It was soon determined, however, that the objectionable results of the incompatibility of the package or some ingredient therein with the perfume oil could be shown, but that the specific part of the package causing the difficulty would not be known unless the process of interaction were to be made visible. Equipment was therefore designed and constructed in which all of the components of the pressure bomb —the parts of the container, gas, emulsions, perfume

oil, and others—were placed in a transparent receptacle, under the same pressure which is used for actual manufacture. With this equipment, what problems have we found that are paramount in perfuming aerosols?

Compatibility of Perfume Oils with other Materials in the Bomb

Before utilizing any aromatics and essential oils in an aerosol, they should be tested to determine their compatibility with other materials in the bomb. This is necessary in order to guarantee that there will be no precipitation which may clog the valve. It has been our observation that the propellents have poor compatibility with many of the commonly used perfume materials, particularly the resins, gums, concretes, and certain types of absolutes, as well as a few aromatic chemicals. Of the essential oils, we found cade and ylang ylang, for example, objectionable, whereas such aromatics as the synthetic musks and phenyl ethyl alcohol can usually be used. As a general rule, it can be stated that oils which contain a large percentage of terpenes and sesquiterpenes cause difficulty so far as incompatibility is concerned, and the removal of these terpenes and subsequent use of the terpeneless oil will generally give satisfactory results.

Solubility of Perfume Oil in Aerosols

A specific phase of the compatibility problem is solubility. We can differentiate by studying under solubility the problem of the use of mutually miscible materials, in the quantities desired, and in such manner that there is no subsequent precipitation. On the other hand, under compatibility we can study the reactivity of the various ingredients.

Some perfume oils that have excellent solubility in alcohol and in water-alcohol mixtures are not very soluble in the aerosols. This is due in the main, we found, to the propellents. In some cases, it may be possible to use a co-solvent, or in other cases it may be necessary to formulate the perfume oil primarily with a view of its having good solubility in the propellent.

It has been our experience that the use of certain alcohols in the presence of certain types of propellents should be avoided. Such alcohols as phenyl ethyl alcohol, benzyl alcohol, and phenyl propyl alcohol can affect the stability of some but not all propellents. In general, the floral notes, such as jasmin and tuberose, are difficult although not impossible to formulate in such a manner that they have good solubility in these types of propellents. A problem of this type can be solved either by avoiding the use of the troublesome aromatics or changing the nature of the propellent.

A particular type of odor may be desired, and certain propellents in which the ingredients of that formula have poor solubility must be used, or one of the ingredients of the bomb may be insoluble in one of the components, such as the propellent. In such a case, a co-solvent may be used that apparently brings the material into solution, but actually suspends the relatively insoluble material in the propellent. As a result, there will be no precipitation and no dual layers. An example can be cited in isoeugenol, which is relatively insoluble in many of the propellents, but can easily be made soluble by use of the co-solvent. The insoluble glycols that are frequently used in aerosols, as triethylene glycol and propylene glycol, can be effectively solubilized by the use of dipropylene glycol as co-solvent.

However, the use of co-solvents should be avoided, if possible, by working with perfume materials that are completely soluble in the given propellent. The co-solvent itself may be relatively reactive and may complicate other problems considered here.

It should be stressed that solubility must be studied at the different temperatures encountered in the manufacture of the aerosols: filling temperature, boiling point of the bases, and room temperature.

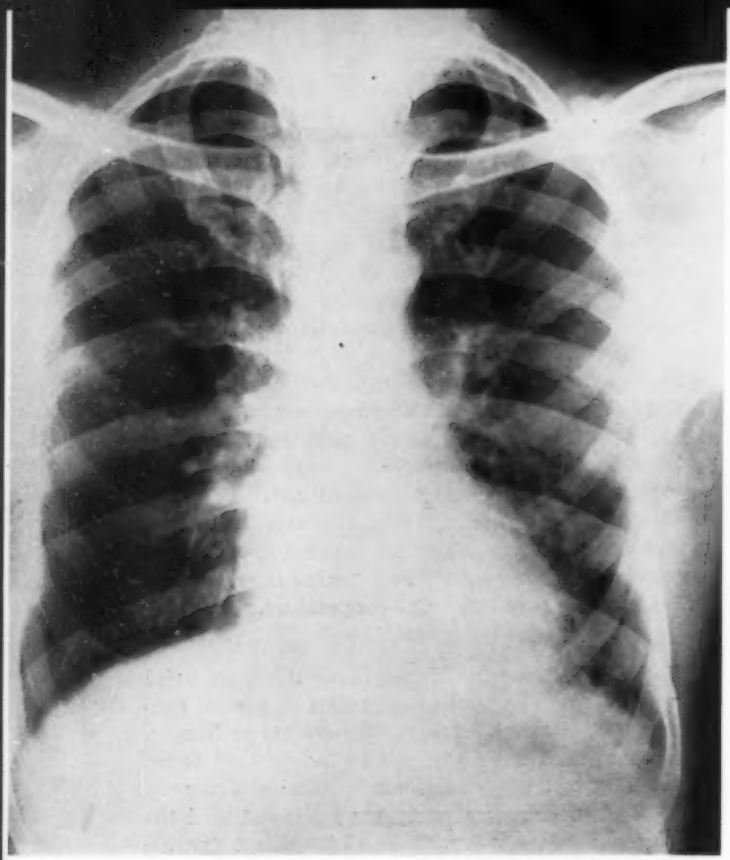
Corrosion

Corrosion is likewise an aspect of the problem of compatibility. The work on corrosion of aerosol containers, but without reference to the effect of perfumery, has been studied previously, and we are indebted to the research at du Pont[1] and General Chemical Company laboratories[2]. These companies have demonstrated the importance of a proper choice of propellent for the specific type of container contemplated.

It can be stated that there are two aspects of corrosion. The first we would refer to as corrosion *per se*, which consists of a reaction between the propellent and the container or any component parts thereof. The second is an extraneous form of corrosion, which may be due to the perfume, the emulsifier, the co-solvent, the fixative, or another such ingredient.

Because of the unpredictable behavior of various materials in an aerosol package, the addition of any one substance, although such a substance itself may not cause corrosion, requires the re-testing of the entire mixture. It has been found that corrosion may be caused by one of the ingredients only in the presence of a second ingredient, the latter perhaps acting as a catalyst. *(Continued on page 124)*

*Delivered before The Scientific Section, The Toilet Goods Association, May 17, 1951.



Photos Courtesy Winthrop-Stearns, Inc.

By Milton A. Lesser

X-RAY CONTRAST MEDIA

WHEN sickness strikes, correct diagnosis is essential to proper treatment. Among the many diagnostic aids available to the physician, few rate as high as the x-ray. In the years since its discovery by Wilhelm Konrad von Roentgen, the usefulness of the x-ray has been greatly extended through the development of various types of contrast media. Today, the roentgenologist possesses an imposing array of such opacifying agents designed to facilitate the visualization of the internal organs and structures of the body.

Remarkable indeed is the progress made in the visualization of body cavities since the discovery in 1895 of rays capable of penetrating the skin and other barriers. Within months after Roentgen's announcement, various substances were being introduced into the body to determine their opacity to x-rays. The oral contrast meal, now widely used for studying the gastrointestinal tract was introduced in 1903. In rapid succession, many methods and materials for radiologically exploring the organs, cavities and hidden recesses of the body were developed.[1] Means for evaluating contrast media were also worked out, and such procedures continue to be improved.[2]

A potent therapeutic agent as well as a diagnostic aid, the x-ray is capable of causing great harm in unskilled hands. Hence considerable knowledge and skill are required in the use of x-rays. The same holds true with respect to contrast media. Although accidents due to radiographic opaques are comparatively infrequent, undesired effects may occur from their use, and fatalities have been reported.[3-4-5] As stressed by Kurzbauer,[1] a knowledge of contrast media and their inherent dangers and contraindications will make x-ray procedures safe for all patients and will free an important diagnostic aid from avoidable hazards.

Contrast media depend on their opacity to x-rays. In addition, as pointed out by Avis,[6] some of these preparations possess a selective affinity for certain organs. By administering the proper drug, a sufficiently high concentration can be obtained in the organ or tissue for which it has this affinity to facilitate radiographic examination. The organs or body cavities are then seen as contrasting shadows on the developed x-ray plates or on the fluoroscopic screen.

Radiographic opaque substances may be divided into three classes. These include gases, heavy metals, and iodine-containing compounds. The last category contains several sub-groups that are of major importance.

Air, carbon dioxide, oxygen and helium are among the gases used as x-ray contrast media. Such media have become valuable tools in the diagnosis and localization of intracranial lesions[1,7] and in evaluating the status of the female genital tract.[8] Recently Zelman[9] described a simple gas contrast method for visualizing the liver and spleen. Rather interesting is the use of carbonated soft drinks, containing carbon dioxide, as contrast media. Nemec[10] used such a beverage for securing adequate contrast of the stomach and Roberts[11] reported success by this method in the localization of magnetic foreign bodies in the abdominal visceral cavity.

Certain salts of bismuth, barium and thorium represent the second or heavy metals group. Bismuth, used originally for opacifying the gastro-intestinal tract, has been supplanted by barium sulfate. Indeed, most x-ray technics for visualizing the alimentary canal are based upon the efficient action of barium sulfate suspensions. Such a preparation is given by mouth for examination of the stomach and upper intestinal tract, but for study of the colon the barium sulfate suspension is injected into the rectum by means of an enema tube. The pure material passes unchanged through the gastrointestinal tract. Side-effects are uncommon, but impaction can occur. A case of partial intestinal obstruction due to barium calculus formation was reported by Bloom.[12]

Available in bulk and in a number of prepared mixtures for ready use, barium sulfate should be smooth, free of gritty particles and must contain no soluble barium salts, which are easily absorbed and highly toxic. Fatalities have occurred when barium sulfide, a depilatory, was accidently substituted for the sulfate.[6] Dean[13] reports seven cases of poisoning, only one being fatal, when barium carbonate (a rat poison) was placed by mistake in a container for barium sulfate.

Thorium dioxide finds a number of uses in roentgenography. A colloidal suspension of this material, available under the name Umbrathor, finds use in gastrointestinal radiography and visualization of the bladder. This suspension flocculates to form a coating on the mucosal surfaces and thus provides a relief picture of the organs. A stable nonflocculating form of thorium dioxide, called Thorotrast, is given intravenously for the visualization of the liver and spleen and parts of the arterial system.[6] This material has also proved useful to localize brain abscesses and to check the results of treatment.[14] Though considered to be of low toxicity, thorium dioxide remains in the body and may act as a foreign substance. More important, however, is the possibility of harm from its radioactivity.[1]

The third group of x-ray contrast media includes inorganic iodine compounds, iodized or halogenated

(Continued on page 116)

Photos Courtesy E. Fougera & Co.

UNITY WANTED...

IT IS THE opinion of some thinking people in the drug industry that it is time that the manufacturers of medicinal agents, as well as other branches of the industry, pulled themselves together and acted as a unit in the face of those who would restrict their operations almost to the point of disaster. In particular, they point to the inactivity of the drug and pharmaceutical manufacturers in meeting squarely the actions of the Food and Drug Administration, who, by their deeds, have indicated clearly that they seek to nullify the right of self-medication via the route of "divide and conquer." And this avenue of accomplishment seems exceedingly easy to the FDA for the reason that the various divisions of the drug industry are attempting to fight their own problems single-handed. This is for the reason that no division appears willing to go out of its way to help any other division in a problem which, on the surface, appears to affect only the one division.

The great prosperity which has come to the ethical branch of this industry seems to be a most important factor in this situation. The manufacturers of products which are restricted to prescriptions had, in large measure, completely ignored threats to the right of self-medication, until the true nature of the Durham-Humphrey Bill was forcefully brought to their attention from other directions. Until that occurred, they were blinded to all problems other than their own which had to do mainly with the certification of antibiotics, export control under the Food, Drug, and Cosmetic Act, new drug activities, and the like. After all, did not one of these companies do a hundred million dollars in a specialty antibiotic last year,—more than the total sales of just about any one of the other pharmaceutical houses in all its products? And have not these same ethical houses almost completely taken over the vitamin business, and the business in the hormones, antihistaminics, and any other really important group of new products?

However, before long there should dawn upon these same manufacturers the realization that if the FDA is able to further restrict the right of self-medication in this country, they also will suffer to a marked extent in their prosperity. And this will come about not only in an immediate effect upon their sales figures of vitamins and many other preparations which are now freely bought over-the-counter, but also in the very important aspect of consumer appeal and public good-will. For now that the pharmaceutical manufacturers are well out in front of the industry, let them pause and give real thought to why they are there, and what it means to be there. They are there mainly because of the fact that they have been the main factors in the development of the new specifics brought on the market in recent years for the cure of otherwise incurable diseases. And while a few—and relatively very few—of these products are true specialties of one or two of the pharmaceutical manufacturers, such a position will not be enjoyed by any one of them for a long time. Certainly in the face of the continued acceleration of new product development, the specialties of a large number of pharmaceutical manufacturers could be-

come obsolete almost over night. The only thing that would stop some of the widely-heralded specialties of today from disappearing very rapidly from the scene would be the confusion of the medical profession when faced with such rapidly changing theories of the therapy of certain diseases.

During recent years there has developed a spirit of cooperation between the medical profession and the pharmaceutical manufacturers which has been widely commented upon as mainly responsible for the present prosperous state of the pharmaceutical manufacturers. This is truly a most desirable state of affairs if the drug manufacturing industry does not lose its identity in the process. It must be realized that, for the most part, the result of this cooperation is, to practically the full extent, development of products which are to be used only on prescription. In fact, the medical profession is exceedingly careful to put its real efforts only into the development of products of that nature. The medical profession makes no bones about it, they are themselves first, last, and always. But this type of thinking, which once was part of the nature of manufacturers of drug products, seems to be disappearing from a large part of the drug manufacturing industry as certain parts of it appear willing to surrender their independence in exchange for this cooperation on the part of the medical profession.

Because the medical profession has now come to rely upon medicinal agents for the high majority of their treatments, the competition in the ethical end of the drug industry has become increasingly sharp. And as this sharpness of competition increases, doctors and hospitals, and the Government,—do not forget the Government —tend to use whatever products are lowest in price, or are available, without regard to the name of the manufacturer. It is for this reason that an increasing number of ethical manufacturers are now advertising to the public in an institutional manner. They should realize that the continued sale of their products over-the-counter for self-medication is perhaps the greatest factor in helping them maintain their positions in the face of this competition in their field. If they lose touch with the public, and cast their lots entirely with the medical profession, they will eventually find themselves completely under the domination of not only the medical profession, but also under the complete domination of the Government.

One only has to recall the activities of Federal Security Administrator Oscar Ewing in the instance of the announcement that strophanthus seed was an excellent raw material for cortisone manufacture to appreciate what we mean. The government was to take over complete control of the growth of this seed, and make it a crop of some indigent island in the Pacific, or elsewhere. What would have happened to the private manufacturers of cortisone if the Government had complete control over the raw material which they must have to produce it? It was only the fact that Oscar Ewing was totally ignorant of conditions surrounding the growth of botanicals, and the fact *(Continued on page 122)*

By Gertrude Schultze
Research Librarian, Bristol-Myers Co., Hillside, N. J.

A COMPANY LIBRARY IN THE COSMETIC PLANT

TODAY publications of wide variety are being issued so prolifically that the accumulating body of knowledge creates a barrier between the reader and the facts he needs. This situation makes it desirable to establish some system whereby the prompt presentation of facts required in specific instances can be available at the proper moment and in the form most ready for use. The cheapest and most efficient way is through the medium of a plant library which forms the natural center for the establishment of a service capable of seeking, sifting, and disseminating information.

The scope of an information service will vary with the size and activities of the company it serves. Normally, it will be required to handle not merely information relating to the products manufactured or purchased, whether in regard to research and development, production or sales, but also on many general matters of management. Information of this type may be drawn from chemical and commercial sources, as well as legal and medical quarters. In addition it may be necessary to cover statistical and financial matters as well as general trade questions. The library does not need to be big in order to be useful, nor need the business be big in order to require a library of some kind. In fact, it is often overlooked that the nucleus for a library already exists in the average plant. Various handbooks and other reference materials are usually scattered in the different offices and full use of these materials is not made because they are not organized.

A well-conducted library performs three distinct functions. First, it collects only the information which it requires. Too much will swamp the system; too little, and it will be found wanting. Second, it disseminates rapidly to as many individuals as possible current information of use to them in their work. Third, collected information is stored in such a manner as to make it available at short notice or, failing this, what is required is obtained with minimum delay from external sources.

Once established, an information department becomes indispensable to the executives, personnel, sales, advertising, manufacturing, research, and quality control departments. It is the Company's arsenal of knowledge to which the men turn for help in finding any bit of printed information that may be needed in solving a problem.

The object here is to describe how a company library can ensure that maximum use is made of recorded knowledge.

For management, the library can serve as the center of information about the business in which the firm is engaged. It preserves historical as well as biographical material about the organization, its founders and leaders. Business histories of other firms engaged in the same field should be on hand for study and comparison.

There are hundreds of problems in which the business executive is interested. When a really important contribution is received in the library, a memo may be sent

to the executive giving in one or two brief paragraphs its significant point and indicating that details are available.

Present-day management requires that Company officials keep abreast of latest developments in their special fields. An executive in the personnel department calls on his library to get cost-of-living figures to be used as a basis of wage adjustments. The revisions of the Social Security Act have brought forth much discussion in the businessman's circle, and all data obtained on this subject must be sent immediately to the personnel manager. One standing request from that office is keeping on the watch for articles dealing with employee retirement and profit sharing plans. Inasmuch as the general field of social insurance has been one of rapid progress, the greatest source of information in this field is ephemeral material which is very seldom listed in publishers' trade indexes. The librarian must search for this elusive ephemera in newspapers, trade, professional and technical magazines. She must carefully scan government releases to learn of such data from this source. In addition, the library obtains latest material on such subject as administrative problems in manpower allocation, stabilization and availability for work, merit ratings, time-study, aptitude testing, and other phases of personnel work.

The library can be of great help to the maintenance department by making available to them books, pamphlets, and periodicals on the care and repair of operating equipment. Current articles on air conditioning should be routed to the man in the service department who could make the best use of them. Occasionally, the librarian may be requested to gather information on the ideal levels of illumination for reading efficiency, and to recommend lighting fixtures to produce different types and levels of light. Of no less importance is the assistance the library can give to apprentices interested in obtaining a better foundation for their jobs. Elementary material

(Continued on page 96)

Photo Courtesy Bristol Myers Company

to Courtesy Richard Hudnut

By G. Barnett and D. H. Powers
Warner-Hudnut Co. Inc., New York

SHAMPOOS IN TAP, HARD, AND SEA WATER*

IT HAS long been recognized that there is a need for a method for evaluating shampoos with particular reference to their cleansing action, foaming action and finishing or softening effect. While some work has been published on the action and stability of foams,[1] it is only recently that a study has been made of cleansing action of shampoos under conditions approaching those encountered under actual use. The Barnett-Powers method has been shown[2] to give a reproducible method of determining the grease removal of the shampoos and detergents and it has been found that most of the leading commercial shampoos are only fair or poor scouring agents. A further study of the synthetic detergents[3] and soaps available indicates that they have an excellent cleansing and scouring action and that there are available a wide range of soaps and detergents, out of which shampoos with powerful cleansing action can be formulated. It is felt that the relatively poor cleansing quality of commercial shampoos may be due in part to the previous inability to evaluate them and in a larger part to the primary emphasis on the accessories of shampoos such as *foam*, *fragrance* and *finish*.

Tests in Hard Water and Sea Water

The present paper using the earlier studies of test methods of evaluating shampoos has been continued and applied to a study of commercial shampoos and synthetic detergents and soaps when used in hard water areas or in sea water. It is recognized that few shampoos are carried out in sea water but this test procedure gives us a means of studying what amounts to the ultimate or most severe hard water conditions. A soap or shampoo which performs in sea water can be expected to peform under any conditions of hard water encountered either here or abroad. Synthetic sea water was prepared as outlined below and while regular sea water is available it is well recognized that in the New York City area there is considerable and widely varying contamination of the sea water so that it would be necessary to go some distance to sea or a great many miles away from the city itself to avoid the danger of sea water contamination. However, evidence indicates that our synthetic laboratory prepared sea water gives results comparable with that obtained with reasonably pure ocean water.

Cleansing Action Only Part of Shampoo

The study of cleansing action[4] and grease removal of shampoos and detergents emphasizes again that cleansing action is only one factor in the performance of a shampoo. We believe that there is adequate evidence to show that many extremely successful commercial shampoos possess a relatively poor and ineffective cleansing and scouring action. It becomes increasingly clear that completely clean, grease free hair is not the ultimate objective of a commercial shampoo and current advertising copy stresses luster, combability and waviness of the hair which are certainly dependent to a real degree on departing from clean hair and producing a finish or coating of oil or lubricant and lustering agent to impart manageability and combability. It is suggested that in a single product we must compromise our cleansing action to get our finishing action and that to obtain the best results in both, two products are indicated; an initial product which would give excellent cleansing, scouring action and a second product which would impart to the clean hair a finish, luster, "highlights" and ready combability.

Test of Commercial Shampoos and Detergents

Sixteen samples of commercial shampoos, which comprise more than 75 per cent of the total shampoo market, were tested and evaluated for their scouring action and 16 synthetic detergents and soaps were also compared. In the case of the shampoo and detergents ½ per cent and ¼ per cent solutions were used respectively. Since commercial shampoos rarely contain 50 per cent active material this particular test was rather severe on the shampoos. However, this test method lends itself admirably to the study of varying concentrations and it is possible to determine by this technique the relative cleansing action of a shampoo per unit cost of product. This sort of data is, of course, of particular interest to those advertising departments involved in the promotion of a product which is most effective per unit cost.

Barnett-Powers Test Method

This method involves the use of wool yarn† spun in

(*Continued on page 108*)

*Delivered before The Scientific Section, The Toilet Goods Association, May 17, 1951.

†A supply of Grease Wool carded and spun into 3 ply yarn is available for purchase from the Amer. Assn. of Textile Chemists and Colorists, Lowell Textile Institute, Lowell, Mass. A standard extraction curve for each lot of yarn showing residual grease content when scoured in the standard manner is provided with each lot to assist in calibration of apparatus. This yarn contains only natural impurities with no added spinning lubricants. This material is supplied in one pound lots, each pound in a sealed container. It should be stored in a cool place to avoid danger of changes in property due to aging effects.

Photo Courtesy Richard Hudnut

Photo Courtesy Helena Rubinstein

By W. G. Fredell and R. R. Read

Lambert Pharmacal Company, St. Louis

ANTIPERSPIRANT TESTING*

THE problem of determining the effectiveness of antiperspirants has interested a number of persons but as yet no quantitative data has been published on determinations carried out in the axillae.

Preparations known as deodorants or antiperspirants for use in axillary areas are used for two distinct purposes. The term deodorant connotes, in this sense, a preparation applied to axillary areas to lessen, eliminate, or prevent odors emanating from those areas. The term antiperspirant connotes a preparation applied to axillary areas to lessen or stop the flow of perspiration in those areas. This paper deals with a method for measuring the antiperspirant effect and not with deodorant effect, although antiperspirant ingredients can and do have deodorant properties.

Various observers have attributed antiperspirant activity to what are called astringent drugs. The testing of astringency has not been carried out on intact skin but on various tissues. Klarmann[1] has listed astringent test methods including the work of Govett and de Navarre on the precipitation of egg albumin.

Correlation of the testing procedures just mentioned with actual quantitative antiperspirant effect in the axillae would give greater meaning to the data in the literature as to antiperspirant effectiveness of materials. However, no quantitative data or methods have been presented to indicate what actually transpires with respect to amounts of axillary perspiration with and without the application of an antiperspirant preparation.

A recent paper by Richardson and Meigs[2] on the "Comparative Evaluation of Antiperspirants" contains information on a method in which areas of the forearm were used. In checking one arm against the other, they conclude that the arms perspire equally. (In our work in axillary areas we conclude that left and right axilla of an individual do not perspire equally.) Another significant statement from their paper is that a fair comparison of two antiperspirants for effectiveness may be made with *prolonged use*.

Sulzberger[3], et. al. indicate the use of a special electrohygrometer together with clinical observations to determine the effectiveness of two products and so rate one as being much more effective in reducing sensible perspiration than the other.

Evolution of Testing Method

The first experiments consisted in collecting perspiration from right and left axillae simultaneously on 2" x 1" filter paper pads backed with heavy waxed paper. The subjects were in a hot room at about 100°F and also wore rain coats. It was noted that axillary perspiration did not start as soon as forehead, arm, and leg perspiration and that our pads were too small. To, determine the actual perspiring area in the axillae, we used the Minor technique as described by Kuno[4] which consists in painting the area with a dilute iodine solution, allowing this to dry, and then dusting with powdered starch. Under the same temperature conditions, the blue starch iodide color reaction did not appear in the same time interval on different subjects although the active sweat secreting area was limited to the hairy areas. Further work carried out made use of pads that covered the hairy areas completely.

Because pads worn in the axillae were uncomfortable, we gathered some data by blotting the axillae with filter paper previously dipped in starch solution and dried. In a humidity controlled room (60 per cent R.H.) at a temperature of 85°F with the subject walking a treadmill, axillary blottings were taken at five minute intervals for fifteen minutes and a fourth set of blottings were taken at five minutes after the subject came off the treadmill. The blottings were weighed immediately on an analytical balance and then placed over an evaporating dish of iodine crystals heated to vaporize the iodine. The blue starch iodide color formed on the filter paper outlined the hairy portion of the axilla but the intensity of color could not be correlated with the weight of perspiration exuded. (This can be classed as a modified Minor technique. It was carried out in this fashion so as to eliminate the application of any chemical, such as iodine, to the axilla.)

Pads of various materials, such as filter paper, absorbent paper, and gauze were studied in determining weights of perspiration simultaneously from right and left axillae. After trying various types of harnesses and pads, we finally settled on the use of absorbent paper packing material folded to form a pad 3¼" x 4½" x ½" backed by a layer of rubber dental dam 3¼" x 4¼". This pad with rubber dam in place was wrapped in gauze so that a single layer of gauze covered the side opposite the rubber dam. Just before weighing, each pad was coded for the purpose of identification both by the subject and by the technicians doing the weighing. The weighed pads were placed in tall glass four-ounce jars and the caps screwed on tight. The jars were code marked to correspond to the pads they contained. Weighings were made on analytical balances to the third decimal place. It had been proved that no significant weight changes occurred through handling or storage in the glass jars. Because the pads after being worn would be stored in the same jars, we also determined that there was no significant change in weight due to evaporation if the caps were screwed on tight.

Subjects on a test were supplied each day with four sets of two jars each of the tared pads. (Code marks were L-1 and R-1, L-2 and R-2, etc. to indicate the set and to indicate in which axilla the pad was to be used.) The subject in using the pads would first dry the underarm areas with a paper towel and then apply the pads to their respective axilla, the rubber dam side away from the skin. No harness arrangement was required to keep the pads in place. The pressure of the arms against the side of the body keeps the pads in

(*Continued on page 111*)

*Delivered before The Scientific Section, The Toilet Goods Association, May 17, 1951.

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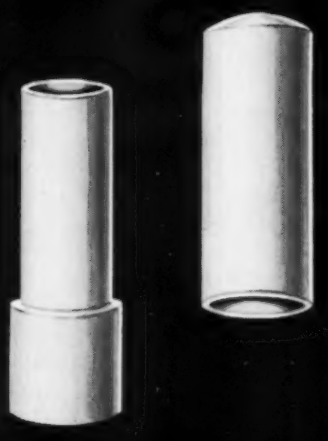

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PACKAGING AND SELLING

WILL RETAILERS RUN ADVERTISING?

How far are retailers going into the space selling business and how deeply will the trend toward point of sale emphasis in advertising affect the publishing business?

That there is a strong tide flowing in favor of greater emphasis on point of sale advertising no one can doubt. Studies on the importance of impulse buying, on the dominant influence of in-store position and on the increasing inability of national advertising, operating in a vacuum, for overcoming brand disloyalty or in fact, for developing sufficient consumer interest to pay its own way without the decisive factor of point of sale influence, are coavincing more and more advertisers that they must move their consumer advertising closer to the point where the consumer meets the retailer.

Cooperative advertising is growing and spreading in spite of all the complaints about the treatment manufacturers get from retailers. An increasing share of the advertising budget of many manufacturers is moving in this direction. It might be that the door has been opened for national magazines to participate in cooperative advertising. The current campaign by McKesson & Robbins in Life magazine, in which they have succeeded in tying several of their principal vendors into a localized cooperative promotion effort with retail drug stores is a significant formula for further magazine cooperative advertising.

There are now on the air a considerable number of radio cooperative campaigns and at least one national, localized hookup on television.

Retailers are well aware of this trend if for no other reaon than the increasing pressure put upon them for promotions based upon cooperative advertising in one form or another. This pressure has already persuaded a few large retailers to systematize their advertising department in its relation with cooperative advertisers. Some retailers are deliberately putting this department on a profit making basis, others are making sure that at least all of their own costs are taken care of.

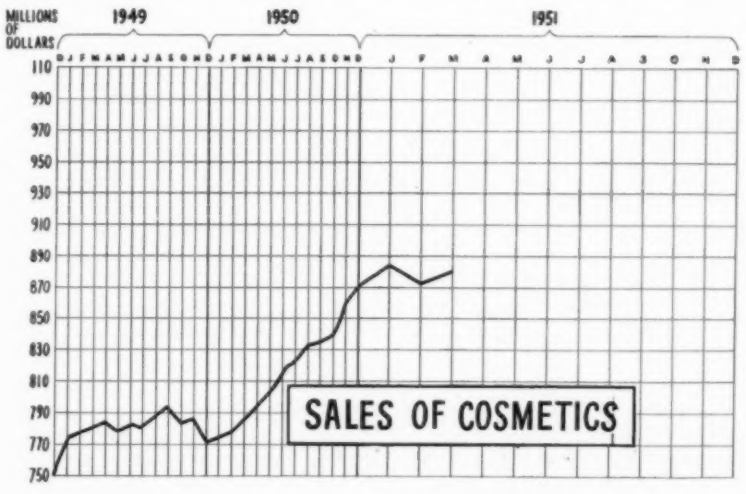
If this trend toward multiple forms of cooperative advertising increases and the retailer discovers an increasingly large flow of advertising money flowing in his direction, it is inevitable that he will be compelled to systematize this part of his relations with his vendor and it would seem inevitable that they will generally put it on a businesslike basis which will mean a profit making basis and could easily mean a media selection basis. By media selection we mean not only a choice of the local newspapers, which to a considerable extent has been within the province of the larger retailers, but a choice between newspapers, magazines, radio, tele-vision or any other advertising activity.

There is another way in which this advertising trend is affecting the publishing business. Almost every national magazine is now vigorously persuing some form of a dealer tie-in policy. This advertising service takes on innumerable forms, but all are directed to persuade the manufacturer that when he buys a page in their magazine, its productive results to him are not based alone on what it will perform with the consumer, but also what it can perform in activating the retailer.

Magazine publishers are far from being blasé or unconcerned about the progress of certain recent magazines which base their primary appeal for advertising on the fact that they are exclusively distributed at the point of sale in the kind of store which is important to the advertiser. The dynamic growth of mass retailing particularly among the supermarket chains had made this type of magazine possible and opens up for the advertising salesmen of these magazines a very potent story of local cooperative point-of-sale advertising, not only with the full consumer impact or penetration or whatever the latest word in advertising circles is, but also as an aid in securing distribution and in securing store cooperation.

It wouldn't be much of a prophesy to say that if magazines of this sort, intimately associated with large retail units and distributed by these retailers,

Retail sales of cosmetics for the twelve months ended with March 1951 totaled $881,763,000. This compares with $873,629,000 for the twelve months ended with February 1951 and with $787,367,000 for the twelve months ended with March 1950.



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THE STILL POPULAR
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Are now JOINED BY *1951's*
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IMMEDIATELY AVAILABLE
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B. B48 FANCY (polished brass top)
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C. B31 (polythene snap cap) (¾ oz. net.)
D. B32 (threaded pol. brass cap) (1 oz. net)

WRITE FOR SAMPLES

RICHFORD CORPORATION
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should continue to make significant headway in circulation and in advertising that it would deeply affect current publishing methods and bring a whole new conception of the way in which publishing is conducted. The question seems to be, can advertising justify itself on the basis of consumer results alone or must it now find a companion service with some segment of the retail trade as an essential part of its continued existence?

House to House

It is not anticipated by the companies in this industry who do business through house-to-house agents that the new Supreme Court ruling which upholds local restrictive ordinances will have any material effect on business.

At the present time, between 600 and 700 local communities have restrictive ordinances against peddling and house-to-house canvassing. These ordinances vary in form although most of them are based upon a model drafted by the National Institute of Municipal Law Offices. Very few towns have an ordinance as severe as that in Green River, Wyoming, where an ordinance of this sort was first tested in court and was finally approved. In Green River, no house-to-house salesman can call on a home without an express invitation to make this call.

The decision of the Supreme Court upholding a local ordinance of this kind may affect magazine subscription selling because between 25 and 50 per cent of subscriptions of most leading national magazines are received in this way. The reason why magazines may be hampered is that subscription selling is largely in the hands of trained crews which jump from town to town and exemplify the basic reason why these ordinances are usually passed, i.e., local merchants and businessmen believe that it is taking money out of the town which could just as well stay there.

On the other hand, the companies in this industry which use house-to-house selling almost entirely base their selling plan upon agents who are respected members of the local community. It has been past experience in towns which have ordinances of this sort that there is little or no inclination on the part of local enforcement officials to proceed against a town resident who is ethically conducting a canvassing business among neighbors.

In addition, this method of selling has been drifting away to a very large extent from cold calls. These agents, who always begin with a nucleus of neighbors and friends, are finding it much more effective to widen the circle of their calls through the introduction and recommendation of these neighbors and friends. Also, there has been a very large expansion in house-to-house selling in the use of the party invitation method used for so many years by Club Aluminum.

In the cosmetic business, house-to-house selling accounts for between 8 to 10 per cent of the total business at retail and in many communities, as recent newspaper panels in cities using the Milwaukee Journal method show, this percentage is even larger and has in general been assuming a larger share of total sales. It could be that in some communities where this increase has been bothering local merchants, that additional ordinances will be passed and for this reason the major factors in every branch of house-to-house selling has been inclined to avoid as much as possible any publicity or discussion of this subject. Past experience however, seems to show very clearly that the Court decision will not seriously impede this method of selling where it is based upon the use of local agents and carefully selected agents and that any changes in selling methods necessary to meet a local ordinance will not impose serious difficulties.

Tele Packaging

Increasing interest is being directed toward problems which television advertising will bring to packaging. Now, in addition to the shelf test for an effective package, many companies will face a television test. The problems of this television test will multiply as color television comes into wider advertising use.

Television will certainly limit the shades and varieties of colors that can be used in packaging. There is already a great deal of study being done on this subject. Large areas of white or light blue or lavender, for instance, will present the problem of glare and the problem of conveying a different color impression than actually exists on the package.

Highlights are another serious problem arising from glossy backgrounds or cylindrical or curved surfaces. Metallic and glass areas must be handled in such a way that the highlight from the gloss will not distort package identification.

Descriptive copy and other necessary parts of the label such as contents, weight, signature and address may have to be removed to some other part of the package because they will be illegible to most people watching television and because their removal from the main body of the label may be needed to give space and clarity to the features necessary to provide identification to the audience.

It may be that special package dummies will have to be developed for television use that will satisfy all the requirements of television and at the same time provide true identification for the package actually appearing on the retailer's shelf.

Super—Super

At the recent Supermarket Convention in Chicago there was an air of dynamic enthusiasm which left no doubt in the minds of visitors that the people at this convention were thoroughly convinced that they, the supermarket people, were riding the tide of today and were destined to be fortune's favorite in the new retail revolution which is taking place.

Many of the featured talks stressed heavily future developments in non-food products. One speaker inferred that the supermarkets would develop some sharp variants from drug store techniques as supermarkets bring to bear their special kind of mass merchandising techniques. Quickened interest in drugs, drug sundries and toiletries were evident everywhere in talks with supermarket management and there was universal interest and admiration for the markups available in this field.

Even the food brokers gave every indication of an energetic desire to climb on this non-food background. As one broker pointed out, this particular operation peculiar to the food field makes it possible for a drug or toilet goods manufacturer to secure experienced services for quickly opening up contracts with the grocery distributors who are entrenched with the supermarket.

So interested was this basically food convention in the drug and cosmetic trade that it almost seemed as if at any moment one of the large food manufacturers would pop up with the announcement that he has added a drug and cosmetic division. Considering the substantial part of distribution which the supermarket now holds and will continue to control, maybe one of these big food manufacturers will soon pop up with an idea just exactly along those lines.

SALES OFFICES

KANSAS CITY
DETROIT
CHICAGO
CLEVELAND
MILWAUKEE
CINCINNATI
LOUISVILLE
ST. LOUIS

ST. PAUL
NEW YORK
MEMPHIS
HAVANA, CUBA

FOSTER·FORBES

Cosmetic Bottles

FOSTER-FORBES GLASS COMPANY, MARION, INDIANA, U.S.A.

How Cosmetics Sell

The Consolidated Consumer Analysis for 1951 has just been released. This market study, covering fifteen major metropolitan markets, is a consolidation initiated by the Milwaukee Journal of the market research data which appears in each of the consumer panels undertaken by the fifteen cooperating newspapers.

The importance of the data in this newspaper panel is more apparent now that we have the new material just released by the Bureau of the Census showing that 64 per cent of the total retail trade of the United States is concentrated in 168 metropolitan markets.

In this combined panel study of fifteen markets the following status of major cosmetic products are shown.

CREAM SHAMPOO: The percentage of use of cream shampoo in these city markets averages around 35 per cent. However, in Salt Lake City 52.5 per cent of the people use a cream shampoo, whereas in Birmingham, only 29 per cent use it. Throughout this survey there is strong evidence of different consumer habits in different city markets and very often wide difference in preference for various brands. It is rare that any one dominant brand stands at the top of each city market. The leading brands of cream shampoo in approximate order of the sales are:

Lustre Creme
Toni
Prell
Shasta
Rayve
Formula 20
Helene Curtis
Vita Fluff
Studio Girl
Avon
Velve Touch (Jewel Tea)
Modart
Richard Hudnut
Wildroot

LIQUID SHAMPOO: The sale of liquid shampoo exceeds that of cream shampoo by a considerable margin and in some cities will run higher than two to one. For instance, in Indianapolis 44.6 per cent of the people use a cream shampoo as against 54.5 per cent for the liquid shampoo. However, in Birmingham 29 per cent of the people use cream shampoo and 60.2 per cent use a liquid shampoo. However, in each of these cities the liquid shampoo leads with approximately 60 per cent of the people preferring this kind of shampoo.

The leading brands are:

Halo
Drene
Fitch
Wildroot
Woodbury
Breck
Richard Hudnut
Watkin's Mulsified Coconut Oil
Conti Castile
Kreml
Stanley
Avon
Formula "42"

TOOTH POWDER: Approximately one-third of the people are using tooth powder, although this will vary from 24.2 per cent in Birmingham to 50.6 per cent in Sacramento. The leading brands are:

Colgate
Dr. Lyon
Pepsodent
Amurol
Ammident
Pycopay
Revelation
Calox
Avon
Caroid
Stanley

TOOTH PASTE: The use of tooth paste is quite consistent with only a few points variation. Over 80 per cent of the people reported using a tooth paste. The leading brands are:

Colgate
Pepsodent
Ipana
Craig-Martin
Ammident
Listerine
Amurol
Phillips' Milk of Magnesia
Kolynos
Iodent
Avon
Lyon's
Squibb

FACIAL CREAM: There is surprisingly little variation in the use of facial creams in these markets. Sixty-eight per cent reported using this product in Milwaukee as against a high of 78.2 per cent in Spokane. The leading brands are:

Pond's
Lady Esther
Woodbury
Max Factor
Avon
Dorothy Gray
Coty
Richard Hudnut (DuBarry)
Harriet Hubbard Ayer
Noxzema
Jergens
Helena Rubinstein
Elmo
Beauty Counselor
Tussy
Merle Norman
Elizabeth Arden
Studio Girl
Colonial Dames

LIQUID HAND LOTION: This is another cosmetic product which seems to have quite a stable national market. The percentage of uses lightly exceeds 70 per cent of the people. The leading brands are:

Jergens'
Campana Balm
Hinds'
Trushay
Tussy
Cashmere Bouquet
Revlon
Avon
Chamberlain
Dorothy Gray
Pacquin (Silk 'n' Satin)
Woodbury
Balm Argenta
Yardley

HAND CREAM: This product is used by approximately 40 per cent of the women in these markets. The variation ranges from a high of 53.1 per cent in Milwaukee to 32.9 per cent in Spokane. Leading brands are:

Pacquin's
Jergens
Avon
Pond's
Sofskin
Perfection
Noxzema
Hinds
Lady Esther
Woodbury
Balm Barr
Tussy
Harriet Hubbard Ayer
Revlon
Athene
Colonial Dames

DEODORANTS FOR WOMEN: This product has clearly come into high and almost universal use. In every city more than 80 per cent of the women report using a deodorant with 92.5 per cent in Birmingham being the highest percentage use. Leaders are:

Mum
Arrid
Stopette
Fresh
Veto
Avon

Odo-Ro-No
Tussy
Etiquet
Five-da-Pads
Yodora
Heed
Ever-Dry
Dorothy Gray

REFILLS FOR PERMANENT WAVE KITS: The averages here run from 32 per cent in Washington, D. C. to 54.5 per cent in Modesto, California. The averages would run around 40 per cent. The following are the leaders:

Toni
Richard Hudnut
Lilt
Rayve
Nutri-Tonic

PERMANENT WAVE KITS: Women purchasing permanent wave kits average a few percentages higher than those purchasing refills. For instance, in Milwaukee 52.1 per cent of the women purchase a permanent wave kit with 49.6 per cent a refill. These general percentages apply throughout these metropolitan markets. Leaders are:

Toni
Richard Hudnut
Lilt
Rayve
Nutri-Tonic
Bobbi
Pin-Wae

NAIL POLISH: Over 50 per cent of the women in these metropolitan markets use nail enamel. In three of these markets, i.e., St. Paul, Duluth and Omaha the percentages fall to 49 per cent whereas in Washington, D. C. the use rises to 63.2 per cent. The leading brands in these markets are:

Cutex
Revlon
Dura-Gloss
Helen Neushaefer
Avon
Chen Yu
La Cross Naylon
Cameo

LIPSTICK: Well over 80 per cent of the women use lipstick. The leaders are:

Avon
Revlon
Max Factor
Coty
Ponds
Dorothy Gray
Helena Rubinstein
Tangee
Elizabeth Arden
Tabu

Department of Commerce Monthly Retail Trade Report

Retail sales of all kinds in drug and department stores showing sales for the month of April 1951 as compared with the same period in 1950.

	Department Stores	*Drug Stores*		*Department Stores*	*Drug Stores*
Atlanta	–12	–6	Minneapolis	0	+4
Baltimore	–4	+14	Milwaukee	+5	+12
Birmingham	–2	–3	Newark	+3	X
Boston	–5	+7	New York	+3	+4
Chicago	0	+7	Philadelphia	–3	X
Cincinnati	–3	+9	Pittsburgh	0	+8
Cleveland	+6	+11	Providence	–11	–1
Dallas	–1	X	St. Louis	–4	X
Detroit	+4	+7	San Francisco	–3	+9
Los Angeles	–8	–2	Seattle	+4	+9

DuBarry
Evening in Paris
House of Stuart
Debutante (Fuller)

FACE POWDER: This is by far the number one cosmetic in percentage of use, reaching 93.6 per cent in Indianapolis and a low of 83.7 in Spokane. The leaders are:

Coty
Avon
Lady Esther
Max Factor
Ponds
Woodbury
Helena Rubinstein
Elizabeth Arden
Harriet Hubbard Ayer
DuBarry
Dorothy Gray
Evening in Paris
Revlon
Debutante (Fuller)

HAIR TONIC (Men): This product shows quite a wide market variation raching 68.1 per cent in Modesto and compared to 38.2 per cent in Columbus. The leading brands are:

Vaseline
Wildroot
Vitalis
Fitch
Lucky Tiger
Kreml
Avon
Mennen
Suave
Jeris
Rose Oil
H Q Z
42 Oil

COLD TABLETS: This is a difficult product to interpret because of the wide variation in classifying this kind of product. It seems that between 25 and 30 per cent of the people in these cities reported using a product that could be generally classified in this way.

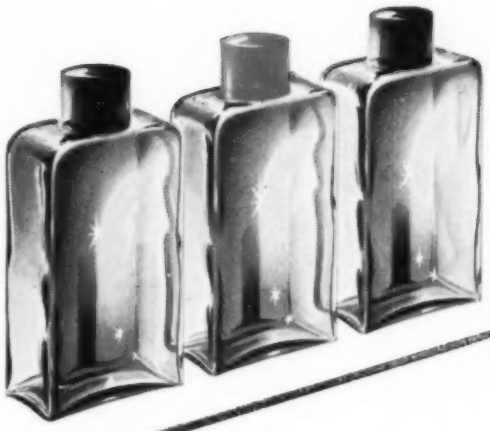
HEADACHE REMEDIES: Similarly headache remedies cover a wide range of proprietary and ethical products. Over 85 per cent of the people report using a product of this sort.

The place of purchase for drugs and cosmetics in these cities show considerable variation. For instance, although drugs are predominantly purchased in independent drug stores, in Columbus, Ohio, 57.7 per cent of the people purchase their drugs in an independent drug store as compared to 4.4 in a department store. In Omaha 58.2 per cent purchase in drug stores but the department store secured 15.5 per cent of the business. It would seem that when a department store enters the picture as a factor in drug sales, the drug chains are more apt to suffer than the independent druggist who seems to hold a fairly uniform position of around 60 per cent of this business.

However, the sale of toiletries and cosmetics almost uniformly favors the department store with an average of about 40 per cent of cosmetic sales. Here the independent drug store and the chain store seem to divide another 40 per cent leaving the balance pretty much to variety stores and house-to-house sales people.

There is strong evidence here of a considerable increase in house-to-house sales. For instance, in Birmingham 17.8 per cent of the people purchase from a house-to-house sales person, cutting down the department store to 36 per cent the drug chain to 8 per cent and the independent druggist to 15 per cent. House-to-house selling seems to be working toward an average of about 10 per cent of sales and the grocery store between 3 and 4 per cent. However, in Modesto, Calif., the grocery store has pulled up to 12.5% of cosmetic sales.

On the Avenue



or on the Counter

it's the Cap with Color that Clicks!

In milady's hat or bottled products... it's color that catches the eye.
And now you can employ this effective selling aid on *your* bottles!
Leaders in the drug, cosmetic and pharmaceutical fields are featuring closures of Plaskon Molded Color in a wide variety of tints and styles.
Here are *solid, permanent, non-chipping* colors—in a plastic that is resistant to solvents, greases, oils, dilute acids and alkalies. Even the smooth, satiny finish adds buy appeal with its warm and friendly feel.
Pharmacist, retailer, wholesaler or manufacturer... it will pay you to contact your supplier for further information.

Your package can help sell your product... cap it with

PLASKON DIVISION • LIBBEY • OWENS • FORD GLASS COMPANY
2110 Sylvan Avenue • Toledo 6, Ohio
In Canada: Canadian Industries, Ltd., Montreal, P. Q.
Branch Offices: Boston, Chicago, New York, Los Angeles, Rochester
Manufacturers of Molding Compounds, Resin Glues, Coating Resins

PLASKON.
MOLDED COLOR

PERSUASIVE...

PRACTICAL...

PERMANENT...

The label is a most important part of your selling package.
And when your label is an H-A "glass on glass" production,
you have a beautiful and permanent message.

For on glistening crystal bottles or on dignified opal jars your brand name
and your design become an integral part of the package.

Available in colors that compliment your product,
they become part of the decoration of the container
and provide a label that can never come off
—it's fired in the glass.

HAZEL-ATLAS GLASS COMPANY, WHEELING, WEST VIRGINIA

Doings

American Vitamin Association of Hollywood are said to be spending $5 million in advertising this year. Emphasis will be on the new product, Formula 621.

This new product makes the third vitamin-mineral product included in this line. The other two are Thyavals, which is a high potency B Complex and Orvita, a liquid tonic for children.

This $5 million advertising campaign is to be one of those supersaturated market drives of the Hadacol type.

Lustre-Creme Shampoo will soon start the largest advertising campaign ever and will feature a number of famous motion picture stars selected by Modern Screen as having the most beautiful hair.

Shadow Wave Home Permanent is breaking into a new radio-TV campaign over California Stations of ABC's Pacific Network. This product is made by Lee Pharmacal Company of Beverly Hills, California.

Toni is testing Tane, a new hair conditioning rinse, in Indianapolis and Fresno, California. This new product is packaged in white bottles with gold letters.

The House for Men, Inc., Chicago, is introducing a new cologne deodorant in an attractive spray type bottle as an addition to the "His" line.

Sperti Products, Inc., are planning a new campaign for New York and several Mid-West cities for their products "Preparation H" and Biodyne.

Norwich Pharmacal Company is launching the first national advertising campaign for NP-27, a remedy for athlete's foot, which has been market tested for three years.

Colgate-Palmolive-Peet is introducing Palmolive After Shave Lotion in a national advertising campaign with an introductory offer of a bottle free with a purchase of a tube of either Palmolive or Colgate Shaving Cream. The lotion will be priced at 29c for a 2 ounce bottle.

Chap Stick Company has been test marketing Sofair for several months. Sofair is a liquid shaving cream designed for women's legs; it has just ordered its first national advertisement.

Campana is introducing a new liquid makeup base called Sheer Magic which comes in six shades at 79c a bottle.

Hazel Bishop, Inc., New York, maker of non-smear lipsticks, has announced a $2 million advertising campaign. The principal part of this advertising was the Freddy Martin TV show featuring dancing, music and variety entertainment over a 62 station NBC-TV network starting July 12th and said to have cost $1,500,000 for time and talent.

Toni is introducing its new product White Rain, a soapless shampoo, with 4-color newspaper, double pages, sky writing, balloons, fashion tie-ins and seven major network radio and television programs.

The Pepsodent Division of Lever Brothers is launching Rayve Home Permanent with a new ingredient called Vita-lite in Chicago and Waterloo, Ohio, with what is called an advertising saturation test. The Company anticipates adding other cities soon.

Lamour Hair Products, New York, is introducing a new hair treatment Cosmetic Curler consisting of treatment pads impregnated with lanolin.

Shulton is introducing stick colognes in three scents: Old Spice, Friendship's Garden and Desert Flower. The cologne sticks come in a frosty, filigree-carved flexible plastic case to sell for $1.

Helene Curtis Industries, Inc. is introducing a new item in the field of Men's hairdressings, Suave for Men, with a new improved formula. It smooths unruly hair and keeps it in place.

The Anahist Co. will introduce Hist-O-Plus, an antihistamine for colds in later stages, on a national basis this Fall as a companion item for Anahist.

Northam Warren Corp. will soon start a new campaign for Odorono cream and spray products, called "the greatest promotion in deodorant history."

Procter and Gamble is putting Joy, a liquid detergent, on a national basis of distribution.

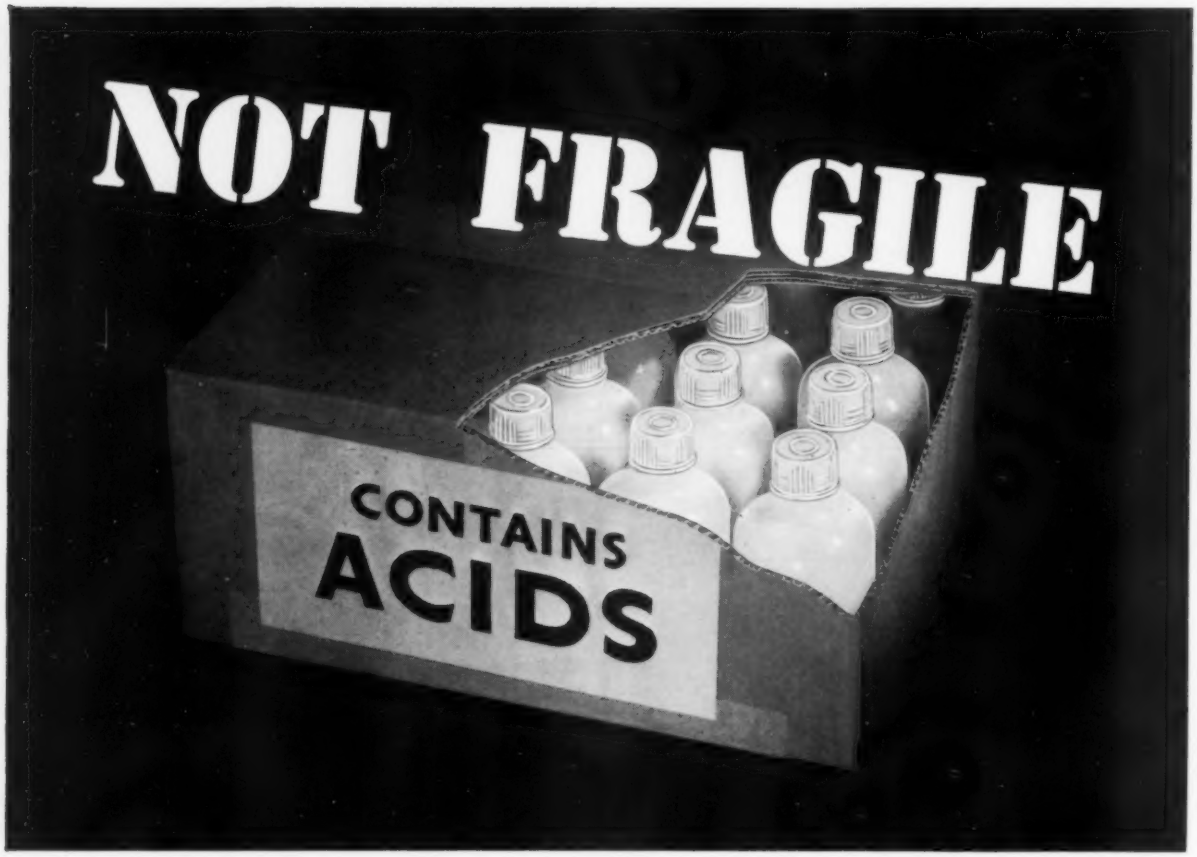
Ar-Ex Cosmetics, Chicago, is introducing a hypo-allergenic face powder.

Helena Rubinstein Inc. is packaging their line of cologne sticks in sparkling Gair-Reynolds Foiline cartons made by Robert Gair Co., Inc. Four different colors are used, lime for the White Magnolia scent, azure blue for Heaven-Sent, rose blush for Apple Blossom, and pale gold for Command Performance.

Chap Stick Co., Lynchburg, Va., is pushing its antiseptic lip balm as a warm-weather item.

Dermetics will repeat last year's end-of-summer 33⅓ per cent price reduction promotion on their Super Rich line of Hydronized Beauty Oils. It will begin September 1 and continue through October.

Tussy Cosmetiques will introduce its Treatment Set for adolscent skins by August at a special price in time for the back-to-school trend. The special set will contain Creamy Masque and Medicated Lotion for disturbed or problem skins.



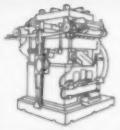
For Packaging Acids so that they can be shipped, stored and handled without fear of breakage, on the ground or in the air. Need to get a highly corrosive or expensive chemical somewhere in a hurry? The Plaxpak bottle is the answer. Take it high in the sky. Unequal pressures will cause it to flex, but not break or pop its closure. Drop it on the ground. It will bounce, but not break. Shipping weights are drastically reduced. When compared empty, the Plaxpak bottle is one-fifth the weight of glass; when filled, one-half the weight.

Only the best is

OTHER EMHART PRODUCTS INCLUDE:

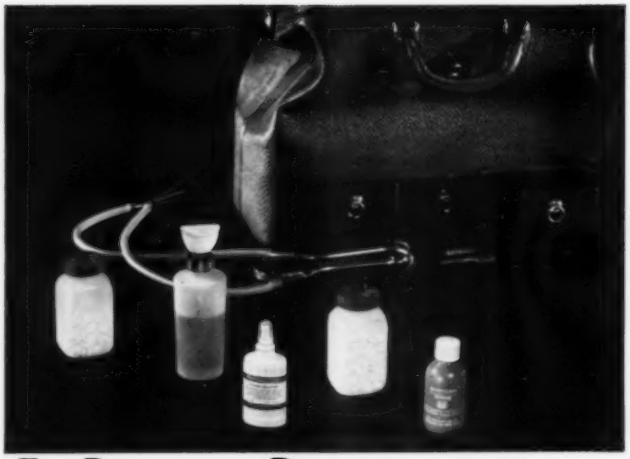
AUTOMATIC PACKAGING EQUIPMENT
STANDARD-KNAPP
Division of Emhart Mfg. Co.
PORTLAND, CONNECTICUT

GLASS MAKING MACHINES
HARTFORD-EMPIRE CO.
Division of Emhart Mfg. Co.
HARTFORD 2, CONNECTICUT



HIGH SPEED AUTOMATIC PRESSES
HENRY & WRIGHT
Division of Emhart Mfg. Co.
HARTFORD 5, CONNECTICUT

PREMIUM QUALITY STAMPING PRESSES
THE V & O PRESS CO.
Division of Emhart Mfg. Co.
HUDSON, NEW YORK



For Packaging Pharmaceuticals in liquid or powder form, the Plaxpak bottle offers the triple advantages of unbreakability, lightweight and, where desired, controlled dispensing as a spray, stream or droplet. Shown above are some stock bottles for medicinal use.

For Laboratory Research the Plaxpak bottle provides the convenience of an unbreakable, chemically inert container, and the added advantage of controlled dispensing. The stream dispensing fitment shown above was developed by S. H. Ansell & Sons, Boston, Mass.

For Boosting Turpentine Production the Plaxpak bottle has proven an invaluable aid. It is used as a container for sulfuric acid, which is squirted into "wounds" in the tree to increase sap flow. Safe, easy to handle and inert to the acid, the Plaxpak bottle speeds up operations, vastly increases manhour output and helps to lengthen tree productivity.

good enough

HELPFUL PLAX LITERATURE
Catalogs on Plaxpak bottles and other Plax products are available on request. Also available is a booklet "Fabrication of Polystyrene."

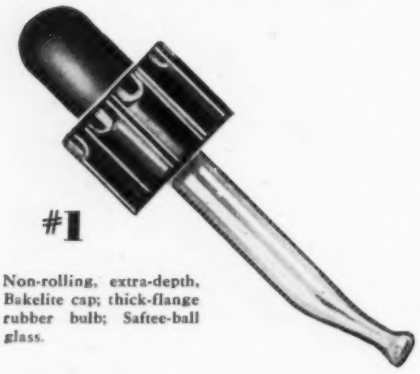
PLAX
FOR PLASTICS
NOT SUBSTITUTES IMPROVEMENTS

PLAX CORPORATION
Subsidiary of Emhart Mfg. Co.
P. O. BOX 1019, HARTFORD 1, CONN.
In Canada, Plax Canada, Ltd., Toronto
Sales Offices: New York City, Syracuse, Philadelphia, Cincinnati and Chicago.

Plax blow-molded products are made under the following U. S. Pats.: 2128239, 2175053, 2175054, 2230190, 2260750, 2283751, 2349176, 2349177, 2349178, 2230188. *Reg. U. S. Pat. Off.

NEW PERFECTION
DROPPING PARTS
meet EVERY
"Satisfaction Test"

QUALITY	A-1
UNIFORMITY	A-1
PERFORMANCE	A-1
CLEANLINESS	A-1
SERVICE	A-1



#1

Non-rolling, extra-depth, Bakelite cap; thick-flange rubber bulb; Saftee-ball glass.

#3

Regular plastic cap; thin flange rubber bulb; semi-blunt glass.

#4

Metal cap; AMEKINE oil-resisting rubber bulb; blunt glass.

They're A-1 with your customers, too . . . assuring you repeat sales!

When you sell a product that pleases and satisfies your customers, you're assuring yourself of their goodwill and continued patronage. New Perfection Dropping Parts help to give you that kind of a product. They are convenient, attractive, dependable—manufactured and assembled under careful and constant inspection to assure the highest possible quality.

RUBBER BULBS are supplied in many styles and colors. Oil-resisting AMEKINE synthetic rubber is used for oil preparations; natural rubber is supplied for other products.

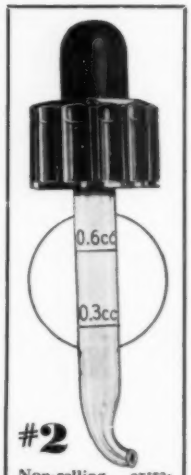
CAPS of plastic or metal can be furnished in a complete range of sizes and colors.

DROPPER GLASSES are available in a wide variety of styles and sizes; plain or CALIBRATED in any color to mark specific dosages.

• • • • •

We can make up dropping parts to fit your own bottles or we can supply bottles in an attractive modernistic style in Amber, Blue, Green, or Clear glass, complete with dropping parts, in the following sizes: 2 cc, ⅛, ¼, ½, 1 and 2 oz.

• • • • •



#2

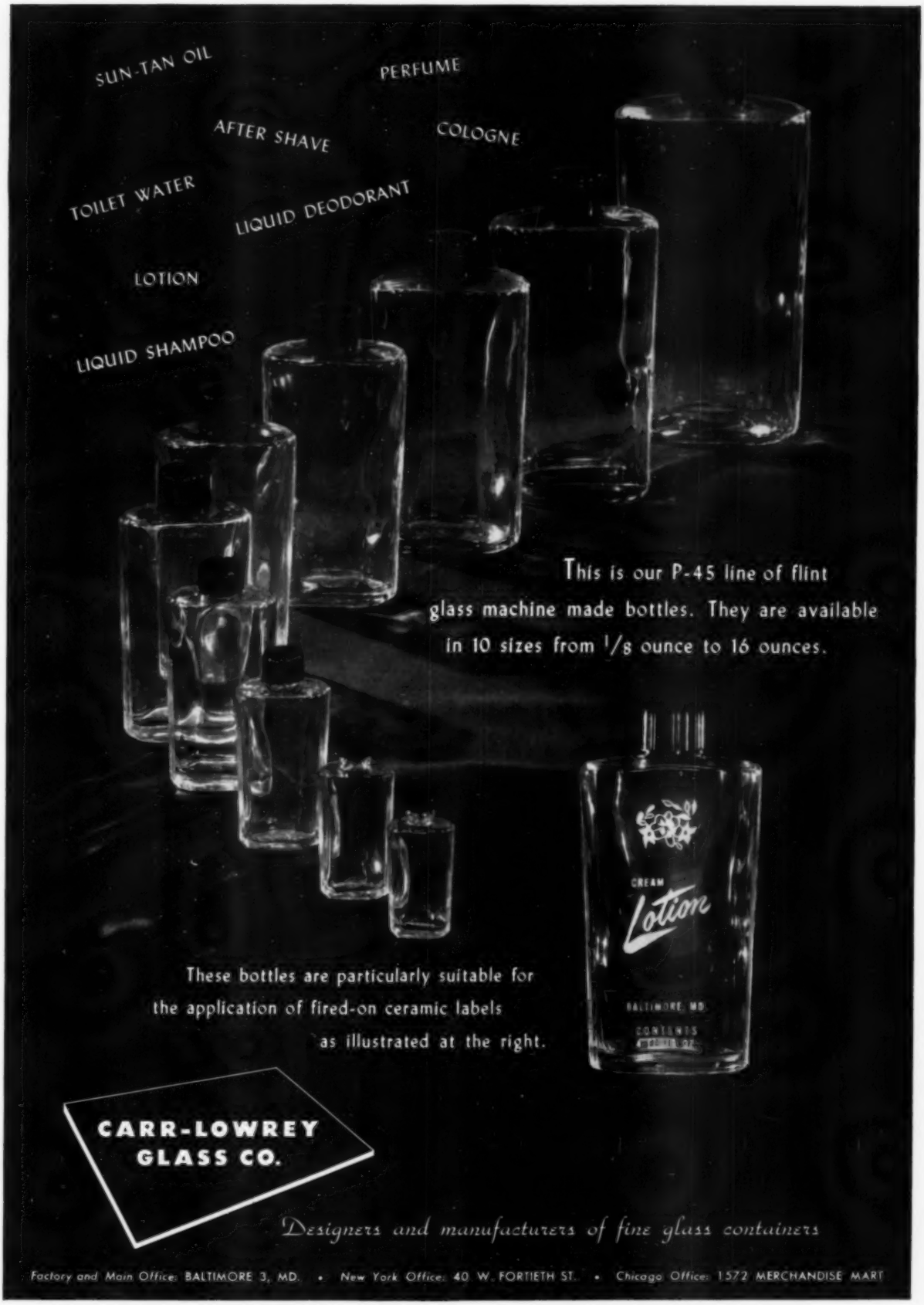
Non-rolling extra-depth Bakelite cap; thick flange rubber bulb; special bent glass (calibrated in color.)

Write for Samples and Quotations

PENNSYLVANIA
GLASS PRODUCTS CO. INC.

"Glass Goods of the Better Kind"

430 N. CRAIG ST. • PITTSBURGH (13), PA., U.S.A.


SUN-TAN OIL
PERFUME
AFTER SHAVE
COLOGNE
TOILET WATER
LIQUID DEODORANT
LOTION
LIQUID SHAMPOO
This is our P-45 line of flint glass machine made bottles. They are available in 10 sizes from 1/8 ounce to 16 ounces.
These bottles are particularly suitable for the application of fired-on ceramic labels as illustrated at the right.
CREAM
Lotion
BALTIMORE, MD.
CONTENTS
CARR-LOWREY GLASS CO.
Designers and manufacturers of fine glass containers
Factory and Main Office: BALTIMORE 3, MD. • New York Office: 40 W. FORTIETH ST. • Chicago Office: 1572 MERCHANDISE MART

For your production of

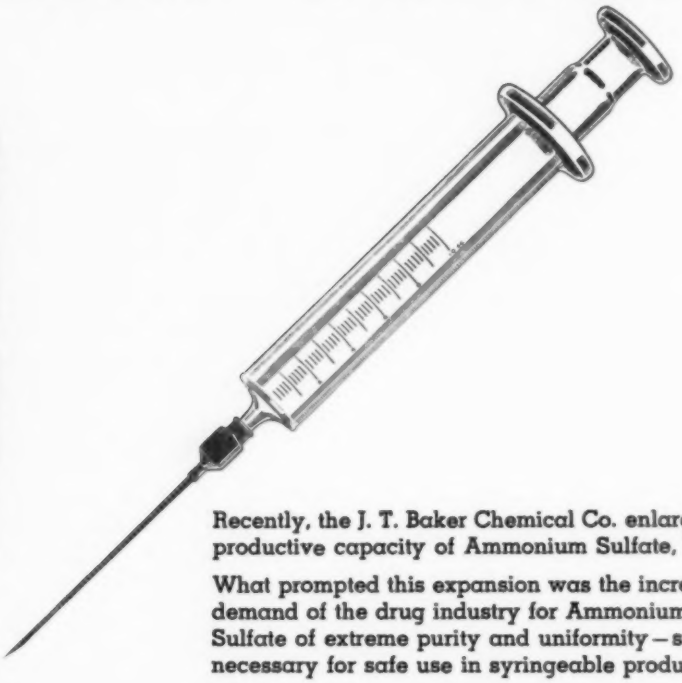
Serums...Antibiotics...Biologicals

call on Baker for high purity

AMMONIUM SULFATE

...for defense needs

...for civilian needs



Recently, the J. T. Baker Chemical Co. enlarged its productive capacity of Ammonium Sulfate, Purified.

What prompted this expansion was the increasing demand of the drug industry for Ammonium Sulfate of extreme purity and uniformity—so necessary for safe use in syringeable products.

Today, with the rise in national defense needs, the demand for this important chemical is even greater.

Purity and uniformity are Baker by-words. Baker Ammonium Sulfate, Purified, assays 99.5% minimum $(NH_4)_2SO_4$. It is low in heavy metals—and is of controlled pH. These are the qualities that you can depend on when you specify Baker Ammonium Sulfate for your injectables.

Whether you are manufacturing for defense or civilian use, we are able to supply you with Ammonium Sulfate (and many other fine chemicals) to meet your exacting requirements. Whatever your needs, consult Baker. For extreme purity and uniformity, by the drum—the ton—or by the carload—call on Baker—a reliable source of supply.

J. T. Baker Chemical Co., *Executive Offices and Plant,* Phillipsburg, New Jersey.

Baker CHEMICAL

Baker Chemicals

REAGENT • FINE • INDUSTRIAL

NEWS...

Parenteral Drug Ass'n Dinner

The Parenteral Drug Association, Inc. held a dinner at the New York Academy of Sciences on June 15, after which they had a round-table discussion of matters of current interest to the industry. The following new members have joined the Association since the first of this year: Hubert E. Boyden, Wm. H. Rorer, Inc.; George V. Cremiux, Organon, Inc.; Irving Feldman, Byrde, Richard & Pound; H. Noel Genung, Chatham Pharmaceuticals; J. H. Gillon Carron Products Co.; L. James Graham, Burroughs Wellcome & Co.; Clarence A. Halm, Riker Laboratories, Inc.; P. C. Hereld, Chemo Puro Manufacturing Corp.; H. H. Kahlenberg, Kahlenberg Laboratories; Dr. Irving Levenstein, Leberco Laboratories; Dr. George N. Malpass, Chemical Specialties Co., Inc.; Leonard W. Maxey, Gollister-Stier Laboratories, Inc.; Fred J. Mann, Mann Fine Chemicals, Inc.; Wm. Douglas McAdams, Wm. Douglas McAdams, Inc.; Joseph P. Miale, Walker Vitamin Products; Harvey Reisman; L. H. Rohde West Co., Inc.; Dr. Hugo H. Schaefer; Ewart L. Shattuck, Abbott Laboratories; John F. Stucky, Pitman-Moore Co.; and Dr. Abraham Taub.

New Tintair plant in Newark, N. J., which Bymart, Inc., has leased from J. R. Watkins Co. for expanded output of its products. About $350,000 will be spent for improvements.

Turner Promoted by Calco

Dr. R. J. Turner has been named chief chemist for pharmaceuticals, according to E. H. Bart, director of process development, American Cyanamid Co., Calco Chemical division. He joined Calco in 1944 as a research chemist in the pharmaceutical department. Survey European Pharm. Companies.

Buryan on Two-Month Tour

Edmund F. Buryan, general manager of Revlon International Corp. is on a two-month tour of the company's plants and agencies in South and Central American countries. His first stop was the Revlon plant in Rio de Janiero.

Picture shows partial construction of Merck's Cherokee Plant at Kanville, Pa., being built for expanded production of vitamin B_{12}, penicillin, niacin, and Cortone. New buildings will total twelve in all and are expected to be completed by September of this year.

Tintair Developments

Esty Foster has been appointed vice-president in charge of manufacturing for Tintair, according to Martin L. Straus II, president and board chairman of Bymart, Inc. His first task will be in conjunction with the six-story manufacturing plant (Quality Control Center) at Hillside Ave., Newark, N. J., which Bymart has just leased from the J. R. Watkins Co. The company plans to spend about $350,000 on new machines and other equipment to convert the plant to the production of Tintair products.

With the addition of this new plant, Tintair now has three laboratories for the study of hair, states Mr. Straus. The Consumers Research Bureau is located at 156 West 56 St., New York, and the other New Jersey plant, the Research Laboratories and Product Development, at 40 South 10th St., also in Newark. All three laboratories are under the supervision of Dr. Joseph Caspe, vice-president in charge of research and product development.

Sobotka with Pharma-Craft

John Sobotka has been appointed director of advertising and publicity of the Pharma-Craft Corp. He was formerly advertising and sales promotion manager of Lorr Laboratories.

Waterfall Appointed by Zonite

Richard L. Waterfall has been appointed general sales manager (United States) for Zonite Products Corp., according to B. J. Ley, first vice-president.

WILLIAM H. DAVIS

Schenley Labs. Training Course

Eleven new pharmaceutical representatives attended an intensive 5-day training course at the Hotel Sinton in Cincinnati in June before being assigned by Schenley Laboratories, Inc., to sales territories ranging from Los Angeles to Schenectady, N.Y. The course was presided over by Harlow Walker, assistant sales manager of the pharmaceutical subsidiary of Schenley Industries, Inc.

Those attending the session were Arnold L. Dickman, Leonard S. Ekstract, Edward J. McAuliffe, John D. Owen, Robert A. Peek, Paul J. Santoro, Joseph W. Schooley, Eric C. Tudor, Raymond C. Weeks, and Wallace R. Williams. Speakers during the course included A. F. Gormley, vice-president in charge of sales; J. H. Noyes, vice-president in charge of production; Bruno Puetzer, vice-president in charge of research; Kurt Ladenburg, director of research; A. M. Reicher, sales service manager; C. B. Taft, director of product development; and E. M. Tarplin, advertising and sales promotion manager.

Sheffield in Regional Posts

L. Tracy Sheffield, president, the Sheffield Tube Corp., has been renominated to serve for the second year as district vice-president of the Connecticut chamber of commerce for the county of New London. He has also been appointed by the Yale Track Association as a director and will serve as the association's regional vice-president for southern New England.

Steindler Appointed by Sandoz

Rudolf A. Steindler has been appointed to the medical editorial staff of Sandoz Pharmaceuticals. He has been active in editorial work for medical and pharmaceutical publications.

Burroughs Wellcome Promotions

William H. Davis, manager of the distribution unit, Burroughs Wellcome & Co., has been promoted to vice-president in charge of distribution, according to William N. Creasy, president and general manager. Mr. Davis has been with the company since 1911.

Fred A. Coe, Jr. has been promoted from marketing-advertising manager to manager of the distribution unit, succeeding Mr. Davis.

Garth H. Quinn has been appointed general sales manager, in charge of all domestic and export sales; he had formerly been manager of the domestic sales division.

FRED A. COE, JR.

Gold Leaf's 15th Year

Gold Leaf Pharmacal Co. is celebrating its fifteenth year, its biggest and most successful year so far, according to vice-president Max Gold who spoke on the occasion at a directors meeting. The company started as a small pharmaceutical firm selling parenterals to physicians and has now moved into its own modern factory building in New Rochelle, N. Y., employing more than 65 persons. It markets ethical specialties of all forms under private label as well as the "Gold Leaf" brand name. Many new products have been added to the company's catalogue, including Vitamin B, pregnenolene, neostigmine methylsulfate, para-aminosalicylic acid, sodium gentisate, and a complete line of soft gelatin elastic vitamin capsules.

Plax Introduces Circular Thread

Plax Corp. has designed a new circular thread for the Plaxpak polyethylene bottles which will supplement standard glass container types and permit a stronger juncture between cap and bottle. It enables the cap to be loosened and removed more easily.

GARTH H. QUINN

Bowman Flies to Netherlands

Charles Bowman, president, Charles Bowman & Co., recently appointed agents for N. V. Philips-Roxane, flew to the Netherlands to visit the Philips-Roxane plant in Amsterdam last month. He was accompanied by Dr. A. M. Hyma and Willis A. Diekema, both of Bowman.

Scandia Receives 1951 Award

Charm Institute has presented the Scandia Cosmetics Corp. with its 1951 award for excellence. The citation was accepted for Scandia by Karol Lindberg, fashion and beauty consultant to the organization, whose products were rated on quality, fragrance and originality by the marketing division of Charm Institute.

Griboff Wins 1950 Schering Award

Francis C. Brown, president of Schering Corp., recently presented a check of $1000 to Dr. S. I. Griboff of New York, representing the Schering Award for 1950. A senior medical student at Syracuse University College of Medicine when he enrolled in the competition, Dr. Griboff wrote a paper on "The Clinical Use of Steroid Hormones in Cancer." The ceremony took place in the executive offices of Schering in the presence of Dr. John N. McDonnell, vice-president; Dr. Norman L. Heminway, associate director of clinical research; and Dr. George Babcock, Jr., chairman of the Schering Award Committee.

Will Represent Verona Chem.

Bettie Stanton, Stanton Chemicals Co., has been appointed special representative by the Verona Chemical Co., covering the cosmetic industry. She will work in conjunction with Verona's Chicago office through the facilities of her own company.

Empress closures and smart-looking label combinations transform stock-mold bottles A-7314 and A-8059 into highly individualized packages for hand cream and nail polish.

MAKE-UP makes the difference!

Regardless of conservation orders, there's no freeze on individuality and ingenuity in keeping your package fresh and appealing.

A different closure, an unusual use of color, a striking label—presto! A stock-mold Duraglas bottle becomes a package of distinction that will stand out anywhere.

Owens-Illinois has more than 1400 different sizes and styles of Duraglas stock-mold bottles to choose from. Our package design specialists at the Duraglas Center can help you create a striking bottle-label-closure combination that's just right for your product.

Remember, no matter what the market conditions may be, it doesn't pay to let your package get out of the *habit* of selling.

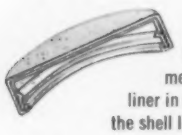
Duraglas bottles are protectors of quality

TRADE MARK REG. U.S. PAT. OFF.

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

"I've never seen a line run so smoothly... *never a shutdown* ...yet every jar is sealed perfectly!"

HARD, SCRATCH-RESISTANT COATINGS. Bright, sparkling colors for instant sales appeal. Handsomely lacquered or lithographed in colors to suit your requirements.



SIMPLE, EFFICIENT CONSTRUCTION. Liner and thread are inserted into a sheet metal shell. The thread holds the liner in position, and the lower edge of the shell locks the thread in place.

PATENTED THREAD DESIGN. Spins on freely. Forms a perfect-fitting seal, but won't "freeze" to container. Only MeritSEAL has this exclusive design.

RANGE OF SIZE, CHOICE OF COLORS AND LINER MATERIALS. 12 standard sizes ranging from 48 mm to 100 mm. Special sizes can be ordered. Choice of various liners to suit your needs.

Yes, production men know that MeritSEAL can be depended upon for economical, trouble-free performance because its unique design represents an entirely new concept of cap construction. It spins easily onto jars on high-speed production lines. And MeritSEAL assures safe, efficient sealing that really protects the product.

In addition, cosmetic manufacturers know how it compliments and enhances their product. Behind-the-counter saleswomen praise the eye-appealing displays—and the fast sales—they can make with products using MeritSEAL. And, of course, the women who buy it love it—for its smooth, trim lines . . . smart, glistening colors . . . and its distinctive look and feel of luxury.

See for yourself how really attractive and efficient MeritSEAL is. We'll be glad to send full information and samples. Simply state your color preference and sizes needed for your product.

CROWN MeritSEAL

CROWN CORK SPECIALTY CORP.
Division of Crown Cork and Seal Co.
ST. LOUIS 15, MISSOURI

Main Office: St. Louis, Mo. • Chicago: 401 W. Ontario Street

New York: 60 East Forty-Second Street • Western Representative: Western Crown Cork & Seal Corporation . . . San Francisco . . . Los Angeles

Pfaltz Chairman of Fund Drive

New York Mayor Vincent R. Impellitteri was the guest of honor at the dinner-dance of the Greenwich Village (New York) Fresh Air Fund, held recently at the Fifth Avenue Hotel, New York. Harry E. Pfaltz, well-known in the perfumery industry, was the 1951 chairman of the drive the purpose of which is to raise money to care for the vacation needs of youngsters in the Village.

Countless valuable gifts were donated for distribution to those in attendance. Among the donations were many from perfume and cosmetic manufacturers, including: Eau de Sortilage, from the Stork Club; fitted hand bag, White Orchid Perfume, and "It's You"—Flower Mist, from Elizabeth Arden; Evening in Paris Gift Sets, from Bourjois; Perfume Ensemble, from Corday; Debutante Ensemble and Debutante Beauty Set, from Daggett & Ramsdell; Pond's Ensemble and Lipsticks, from Pond's; Bath Soap Sets, from Hewitt Bros. Soap Co.; and Touch and Glow, from Revlon.

Harry E. Pfaltz (glasses) presenting New York Mayor Vincent R. Impellitteri with a special invitation to be guest of honor at Greenwich Village (New York) Fresh Air Fund benefit dinner-dance. Theresa J. Jamund (left) and Isabel Bryan, Greenwich Village Association president, and publisher of The Villager, joint sponsors, were also present.

Amer. Can to Build New Plant

The American Can Co. plans to build a new metal container plant near Harrisburg, Pa., according to W. C. Stolk, president, on a 48-acre tract of land recently purchased in Lemoyne Borough and Lower Allen Township. The factory will employ about 450 people and will have a capacity for more than 400,000,000 food cans a year. Start of construction will depend on the availability of structural steel and other building supplies.

The plant will consist of three connected buildings, a large manufacturing and storage area, a service building containing a cafeteria, locker rooms and other facilities, and a general office building.

Special Issue of "Stokes News"

F. J. Stokes Machine Co. published a special issue of "Stokes News" last month which deviated from its regular channel of information by presenting a complete tour through the Stokes Organization in reportorial fashion. Ordinarily the bi-monthly house organ discusses developments in those fields served by Stokes equipment. Owing to a large increase in defense orders and greater demand for company products, the firm deemed it best to use one issue of the publication to describe the company's internal mobilization.

Establishes $50,000 Research Fund

Sharp & Dohme, Inc., has authorized $50,000 to be placed in a special fund for grants to outstanding university scientists for the advancement of fundamental research in the fields of biology, microbiology and chemistry, according to William L. Dempsey, president. At the same time, two grants of $10,000 each were made from the new fund to Dr. W. W. Swingle, department of biology, Princeton University, and to Dr. Stanley J. Sarnoff, School of Public Health, Harvard University.

The grants are to be awarded on a year-to-year basis, but it is the company's intention, because of the long-term nature of fundamental research projects, to renew the grants for at least two additional years.

Named Schenley Medical Directors

Dr. Francis E. Martin and Dr. Philip A. Boyer, Jr., have been appointed associate medical directors of Schenley Laboratories, Inc., according to Dr. Charles E. Dutchess, vice-president and medical director of the Schenley Industries Inc. affiliate.

Robert Returns to Paris

Henri Robert, director of the de Laire division of Dodge & Olcott, Inc. is spending three months in France where he will work in the perfume lnboratories of Fabriques de Laire at Issy les Moulineaus, a suburb of Paris. He will return to New York in September to continue his research with perfume specialities.

Blase Honored for Q-Process

Edwin W. Blase, project engineer in the research and development department of Chas. Pfizer & Co., Inc., was honored June 8 by the Chemical Engineers of Greater New York for his invention of the Q-process used in the recovery of terramycin. The award, in the form of a certificate, which was made this year for the first time, is limited to men under 32 years of age; its purpose is "to foster the professional development of younger men in industrial chemical engineering."

Mr. Blase was nominated by Dr. Wilbur A. Lazier, Pfizer's director of chemical research and Development. The judges were Sidney D. Kirkpatrick, editorial director of *Chemical Engineering* and *Chemical Industries Week*, William Bowman, Jefferson Chemical Co.; Dr. Donald F. Othmer, department of engineering, Polytechnic Institute of Brooklyn; Robert L. Taylor, executive vice-president of the Manufacturing Chemists Association; Zola G. Deutsch, consultant; and H. B. Cooper, Calco division, American Cyanamid Co.

William Trotter, Celanese Corp., was chairman of the awards committee, assisted by Joseph A. O'Connor, news editor of *Chemical Engineering*; P. K. Birkhahn, Allied Chemical & Dye Corp.; and Robert D. Burleson, Merck & Co.

Miles Elected V.P. Ames

E. L. Miles has been elected vice-president in charge of advertising of the Ames Co., Inc.

Heyden PENICILLIN and STREPTOMYCIN

CONSIDER THE SOURCE!

Like an uninterrupted supply of motive power, Heyden Penicillin and Streptomycin serve the medical profession with quality and uniformity that are constant. Through advanced research and manufacturing methods, users of these superior antibiotics are protected against fluctuations in production, price and delivery. For these important reasons, outstanding consumers and packagers alike consider the source—and invariably the answer is Heyden Penicillin and Streptomycin!

BULK FORMS OF PENICILLIN, STREPTOMYCIN AND DIHYDROSTREPTOMYCIN

High-potency Penicillin, in hermetically sealed jars of 500 million units, 1 billion units, and drums. Special sizes on order.

Crystalline Procaine Penicillin G, Regular or Micropulverized, sterile.

Crystalline Penicillin G Potassium, sterile.

Crystalline Penicillin G Sodium, sterile.

Crystalline Penicillin G Potassium, tablet grade.

Streptomycin and Dihydrostreptomycin in bulk, for formulations in ointments, etc., available in 1 kilogram containers.

• • •

Packaged forms (Vials) of Heyden Penicillin, Streptomycin and Dihydrostreptomycin are also manufactured in all popular dosages, as well as Tablets (buffered and soluble) and Troches of Penicillin, sealed in foil.

• • •

FOR THE MANUFACTURER-DISTRIBUTOR: **All popular forms of Heyden Antibiotics ready for private labels and packaging.**

FOR THE MANUFACTURER: **Bulk quantities for private formulation.**

FOR THE DISTRIBUTOR: **Labeled and packaged forms ready for sale.**

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Write today for fully detailed brochure covering all Heyden Penicillin and Streptomycin products.

CONSIDER THE SOURCE! . . . and you'll specify HEYDEN

HEYDEN CHEMICAL CORPORATION

393 SEVENTH AVENUE, NEW YORK 1, N. Y.

FINE HEYDEN CHEMICALS

Survey European Pharm. Companies

Arthur C. Emelin, president of Schenley Industries, Inc., and six other executives, flew to Europe early last month to conduct a 30-day observation tour of current operations by pharmaceutical companies in Western Germany, France, and Spain. The purpose of the trip was to assist pharmaceutical associates abroad, particularly in the production of antibiotics, and study recent progress in pharmaceutical research and manufacturing.

Also on the trip were Aaron Levy, executive vice-president; Sidney N. Sadoff, vice-president in charge of engineering; Dr. Bruno Puetzer, vice-president in charge of research; George Gilbert, export manager; Milton Seasonwin, assistant general counsel; and David Ginsburg, consultant.

Packaging Inst. Annual Meeting

The Packaging Machinery Manufacturers Institute will hold its nineteenth annual meeting from October 13 to 17 at the Mid Pines Club, Southern Pines, N. C., according to Boyd H. Redner, Institute president, and general manager of the Battle Creek Bread Wrapping Machine Co.

Red Star Chem. Co. Moves

Red Star Chemical Co., Inc. and Keto Chemical Co., Inc. have moved their offices and shipping department from 40-33 23rd St., Long Island City, to larger quarters at 17-21 East 22nd St., New York 10.

James Bailey (right), vice-president and director of research, Plax Corp., receiving 1950 John Wesley Hyatt Award for distinguished achievement in plastics, at ceremonies on May 24 at the Greenbrier, White Sulphur Springs. Governor Okey L. Patteson, West Virginia, presents award, which included $1000. It was sponsored by Hercules Powder.

Dr. Nachod on Advisory Edit. Board

Dr. Frederick C. Nachod, in charge of the physical chemistry laboratories of the Sterling-Winthrop Research Institute, has been appointed to the advisory editorial board of a new series of volumes, entitled "Organic Analysis Series". The appointment was made by E. S. Proskauer, editor-in-chief, Interscience Publishers Inc., in charge of editorial arrangements. The purpose of this series, each volume of which will be about 500 pages, is to present the methods of studying chemical compounds in respect to their constitution and controlled industrial processes.

Sterling Drug Latin Amer. Sales Up

As a result of a major expansion program undertaken in 1941, the sales of pharmaceuticals and proprietaries in Latin America by units of Sterling Drug Inc. have increased about 700 per cent, according to Robert Gruner, sales manager of Sterling Products International, Inc. Although European competition returned to this area after the war, American manufacturers still enjoy the largest share of the market, Mr. Gruner continued, stating that Great Britain, France, Denmark, Switzerland, and the Netherlands are now selling in Latin America also.

Men who attended Ortho Pharm. Corp. sales training school in May, preparing for medical detail field forces. Left to right, standing, are Robert J. Campbell, James H. Boyle, Claude Baker, Hugh H. Fuller, Robert H. Lounsberry, Waldo B. Clark, Jr., and William W. Long. Seated are: James Ortman, Norman R. Lacombe, products director; John H. Meyer, director of advertising and sales promotion; Frederick W. Blackburn, field forces director; Blaine E. Anderson, sales training director and Bruce Bunten.

Anchor Hocking Appointments

James W. Sharpe, formerly plant manager of the Anchor Hocking Container factory at Connellsville, Pa., has been appointed plant manager of the firm's Winchester, Ind., glass container factory. He has been succeeded in his former position by Harris Snell who was moved up from assistant plant manager of the Connellsville plant.

Robert E. Deetz, production control manager for the container division of Anchor Hocking Glass Corp., has been appointed assistant plant manager of the Connellsville container plant.

Irwin Promoted by Gen. Box Co.

Alan Irwin has been promoted to manager of the Detroit division of General Box Co., according to N. W. Embry, president.

Carol Channing as Lorelei Lee in "Gentlemen Prefer Blondes".

but GENTLEMEN CHEMISTS may prefer Glycol Fatty Acid Esters

This gal may not know an emulsion from a dispersion, but—most chemists know how Polyglycol 400 Mono Laurate is used as an emulsifier in insecticides, or how Carbowax 1500 Mono Stearate is used as a dispersing agent in pharmaceuticals. As a matter of fact, if you are a cosmetic chemist, you might be able to tell a rubber chemist or a paper chemist a thing or two about Glycol Stearates and Laurates.

You'll notice in the table below how their uses change as their molecular weights increase. It is a fact that when it comes to Polyhydric Alcohol Fatty Acid Esters, Glyco's laboratory and information file may help you. Why not write for our Ester catalog containing information on how these versatile products might help solve one of your problems? Address Dept. E751.

POLYHYDRIC ALCOHOL FATTY ACID ESTERS

PRODUCT	FIELD	USE
Ethylene Glycol Mono Stearate	Cosmetics	Opacifier
Diglycol Laurate	Paper Textiles	Defoamer Emulsifier
Diglycol Stearate	Cosmetics Paper Metals Plastics	Emulsifier Plasticizer Lubricant
Poly Glycol 200 Mono Laurate		Viscosity Stabilizer
Poly Glycol 400 Mono Laurate	Insecticides General Plastics	Emulsifier Non-ionic wetting agent Anti-static agent
Poly Glycol 400 Mono Stearate	Textiles Pharmaceuticals	Suspending and thickening agent Suspending agent
Poly Glycol 400 Distearate	Shampoos	Thickener and foam stabilizer
Poly Glycol 600 Mono Laurate	Detergents	Non-ionic surfactant
Carbowax 1000 Mono Stearate	Paper Coating	Anti-gelling agent
Carbowax 1500 Mono Stearate	Pharmaceuticals	Dispersing agent
Carbowax 4000 Mono Stearate	Electrical Insulation Textiles	Water soluble lubricant Thickener

GLYCO PRODUCTS CO., Inc.

26 COURT STREET **BROOKLYN 2, N. Y.**

CHEMICALS BY GLYCO

KENNETH A. BONHAM

Bonham Named Amer. Home Exec.

Kenneth A. Bonham, former president of Emerson Drug Co., has joined American Home Products Corp. as assistant to Walter F. Silbersack, president. He joined Emerson in 1943, prior to which he had been editor and co-publisher of *American Druggist*.

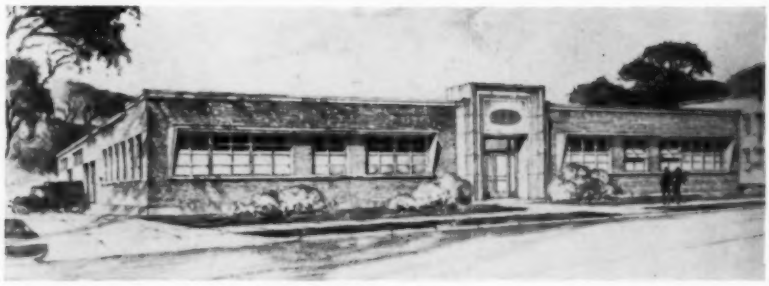
New Armour Pharm. Center

Ground was broken for the new Armour Pharmaceutical Center in Kankakee County, Ill. on June 21, which is expected to be completed within 18 months. F. W. Specht, president of Armour & Co., and T. E. Hicks, vice-president in charge of the laboratories, officiated at the ground-breaking ceremonies.

Pharmaceutical research will continue to be done at Chicago for the time being, but as new and improved preparations are developed, the actual production will be transferred to the Center.

Leler Leaves Rhodes Pharmacal

Robert H. Leler, vice-president of Rhodes Pharmacal Co., Inc., and a director of Church Chemical Co., has resigned to accept an appointment on the executive staff of the Atomic Energy Commission.



New Atlanta branch office building of Lederle Labs., which was opened June 11. It will also serve as a warehouse for the Southern states. Heyward C. Hughes is manager.

Chadwick Addresses CIBS

Norman Chadwick, promotion manager of Avon Products, was guest speaker at the June 14 meeting of the C.I.B.S. at Toots Shor's restaurant. He talked on the methods and procedures of direct selling, based on his background of 25 years of experience with Avon.

Pond Pharmacal Moves

Pond Pharmacal Co., Inc. has moved its office and factory from Clinton, Conn., to 50-19 47th Ave., Woodside, N. Y. The telephone number is HIckory 6-9190.

Anderson with Plax

Denton Anderson has been appointed assistant vice-president of Plax Corp. He had formerly been with the Ecusta Paper Corp., president of the Pisgah Chemical Corp. and a partner of F. H. Snyder Laboratories.

Dahl Resigns from Bourjois

Norman F. Dahl announced his resignation as president and general manager of Bourjois, Inc., effective June 30 and was succeeded by Hugo Bell. Mr. Bell, who joined the company in February, 1951, as vice-president and assistant general manager, was designated executive vice-president and general manager before assuming active management of the company.

3 V.P.'s Named by Schenley

Dr. Bruno Puetzer, James H. Noyes, and Samuel Miller have been appointed vice-presidents of Schenley Laboratories, Inc., according to Arthur C. Emelin, president. Dr. Puetzer, formerly research director for the Vick Chemical Co., joined Schenley in 1949; he willl be in charge of pharmaceutical research and development. Mr. Noyes, plant manager since 1944, will be in charge of production, and Mr. Miller, advertising and sales promotion-manager since 1946, will be in charge of development.

Whittaker Talc Books Are Ready

Whittaker, Clark & Daniels, Inc. report they have reconstructed their sample room and restocked their Talc and Metallic Soap Catalogues which were destroyed by a fire on March 2 at the South Kearney, N. J. plant. All requests for the catalogues made prior to the fire have been filled, and new inquiries are now being handled as they are received.

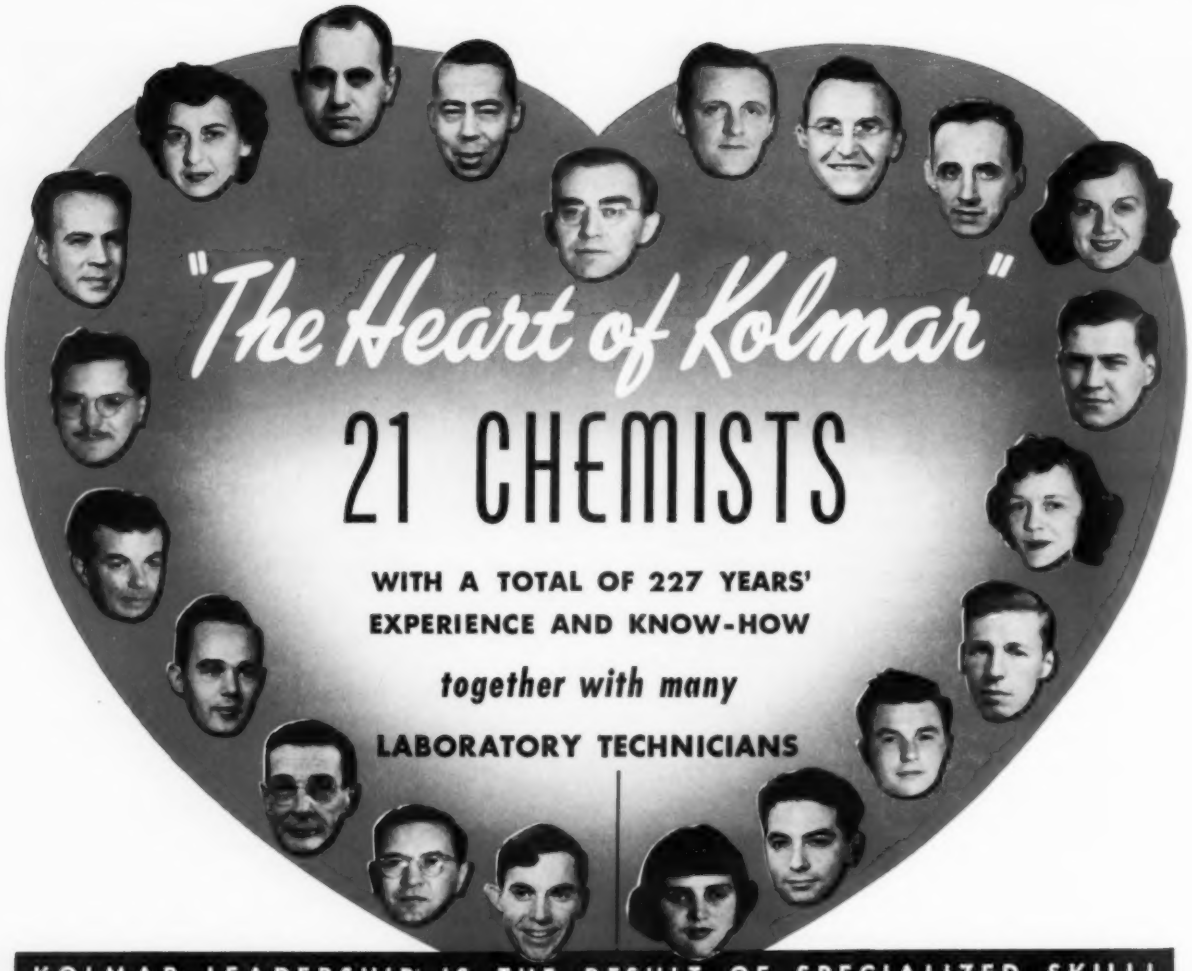
Colby Promoted by Emery

Vernon W. Colby has been promoted by Emery Industries, Inc. to an assistant chemical sales manager. He will supplement the activities of Robert T. Hull, also an assistant chemical sales manager, and Robert F. Brown, chemical sales manager.

ROBERT H. LELER

NORMAN F. DAHL

VERNON W. COLBY


"The Heart of Kolmar"
21 CHEMISTS
WITH A TOTAL OF 227 YEARS' EXPERIENCE AND KNOW-HOW
together with many
LABORATORY TECHNICIANS

KOLMAR LEADERSHIP IS THE RESULT OF SPECIALIZED SKILL!

♥ The "Heart of Kolmar" provides continuous creative research and thorough testing at every step of the manufacturing process . . .

♥ It provides the control of quality from raw material to finished product . . .

♥ It has given Kolmar product superiority and uniformity, combined with favorable price . . .

♥ It has enabled Kolmar to develop many of the best known products in the cosmetic field . . .

♥ It constantly works for the improvement of existing methods and formulae, and the development of new ones.

♥ It has won Kolmar recognition *as America's Leader in Private Label Cosmetics.*

The customer's rights in the formula under which he operates is always respected by Kolmar. Consultation will not obligate you and there's a Kolmar Laboratory or Representative near to give you prompt service at all times.

•

Kolmar Products include Lipstick, Dry and Cream Rouge, Loose Face Powder, Cake Make-Up, Compact Powder, Foundation Creams, Liquid Make-Up, Eye Shadow, Mascara, Lotions, Colognes, Perfumes and other cosmetics.

•

REPRESENTATIVES: DOUGLAS HAGGERTY, EASTERN SALES MANAGER, THOMAS LA PRELLE, EMPIRE STATE BUILDING, ROOM 605, NEW YORK, N. Y.; WARREN M. CURRY, 140 WALKER ST., S. W., ATLANTA 3, GA.; NORMAN KOLE, 419 MERCHANDISE MART, CHICAGO, ILL.; J. C. WEILER, 8003 FORSYTHE BLVD., ST. LOUIS 5, MO.; R. F. G. BYINGTON, 1260 N. WESTERN AVENUE, LOS ANGELES, CALIF.; RICHARD F. SPICKER, 419 WEST FIFTH ST.; CINCINNATI, OHIO; ELMER J. SCHWARTZ, 10016 E. 35th TERRACE, KANSAS CITY 3, MO.

Kolmar LABORATORIES

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PRIVATE LABEL COSMETICS EXCLUSIVELY

KOLMAR COSMETIC SPECIALTIES, INC. (complete package division) • KOLMAR INTERNATIONAL, INC. • WICKHEN PRODUCTS, INC.

PLANTS IN PORT JERVIS AND ELLENVILLE, NEW YORK; TWO LARGE PLANTS IN MILWAUKEE, WIS., AND ONE IN HOLLYWOOD, CALIF.
CANADA: KOLMAR WILCKENS, LTD., PLANT IN OAKVILLE, ONTARIO; OFFICE: 205 YONGE ST., TORONTO, ONT.
AUSTRALIA: KOLMAR (AUST.) PTY. LIMITED, 494 KENT ST., SYDNEY

Named FDA Deputy Commissioner

George P. Larrick has been appointed deputy commissioner of food and drugs, according to Commissioner Charles W. Crawford. He becomes the second ranking officer of the Food and Drug Administration by succeeding Mr. Crawford who became commissioner on May 31 upon the retirement of Dr. Paul B. Dunbar.

Mr. Larrick has been with the FDA since 1923, having started as an inspector at the Cincinnati station. He was transferred to Washington in 1928 and became senior food and drug inspector in 1930, chief inspector in 1939 and was appointed associate commissioner in 1945.

Durrett Leaving F.T.C.

Frederich W. Irish is succeeding Dr. James J. Durrett as chief of the division of medical opinion of the Federal Trade Commission. Dr. Durrett is leaving the F.T.C. to become dean of the Alabama Medical College. Mr. Irish, a graduate of the Pharmacy School of the University of Wisconsin, became associated with the F.T.C. in 1941 when he left the Food and Drug Administration, and since that time has been assistant to Dr. Durrett.

Schrader Appointed by Heyden

Lloyd L. Schrader has been appointed manager of the industrial relations department of Heyden Chemical Corp., with headquarters at the Garfield, N. J. division.

Adler Promoted by Helene Curtis

Arthur M. Adler has been promoted to the position of vice-president of Helene Curtis Industries, Inc., according to Gerald Gidwitz, president. He has been with the company since 1939 and has been serving the company as works manager.

Officers and other members of Polak & Schwarz attending ground-breaking ceremony for new flavor plant at Teterboro, N. J. in May. Front row, left to right: Philip Manuli; Helen Horst; Louis Davids, exec. vice-pres.; Mrs. Elly Schwarz, widow of company's founder; Kathryn Wynmalen, wife of late John Wynmalen, former pres. and board chairman; Paul Schwarz; Mrs. Nettie Vanderpol; Vera Baum, mayor of Teterboro; Clifford Jackson, vice-pres.; and Dr. Charles Floeting. Back row: Harry Vanderbach; Charles Fricke, vice-pres.; Dr. Norman Larsen; Mrs. Robert Cotto; John Carick; Thomas Bonica; Joseph Ungerland; Benjamin d'Ancona, sec.; Joseph Muscarelle; Freeland Fellgraff; and Fletcher Collins. After the ceremony Mr. Davids addressed the gathering briefly.

Amer. Pharm. Co. Expands

American Pharmaceutical Co. has acquired a modern six-story building at 120 Bruckner Boulevard, New York. Manufacturing, research, and product development facilities will be greatly enlarged, and the offices, laboratories manufacturing operations, and shipping departments will be transferred to the new location as soon as alterations are completed, about August.

Plans to Buy Arlington Chem. Co.

The U. S. Vitamin Corp. has contracted to acquire the properties and business of Arlington Chemical Co. of Yonkers, N. Y., according to H. B. Burns, president. The purchase includes the plant of 72,000 square feet and the 4½ acre tract on which it is located. The present personnel of Arlington will be expanded, and operating policies will be directed by U. S. Vitamin executives.

Eighteen new chemists and researchers will be added first in a move to bring wider diversification to Arlington operations.

Helps V. P. Chem. Specialties

Ronald Helps has resigned as Vice-President and secretary of Schieffelin & Co. to become Vice-President in charge of domestic sales and promotion with Chem. Specialties Co., Inc., the United States affiliate of Syntex, S. A., Mexican Steroid hormone manufacturer.

Barrett with Armour Labs.

Dr. Edward A. Barrett has been named regional medical director of the professional service division of the Armour Laboratories on the Pacific Coast, with jurisdiction over nine western states, according to Thomas E. Hicks, vice-president of Armour & Co., in charge of the Laboratories.

Bush Named Sales, Advg. Manager

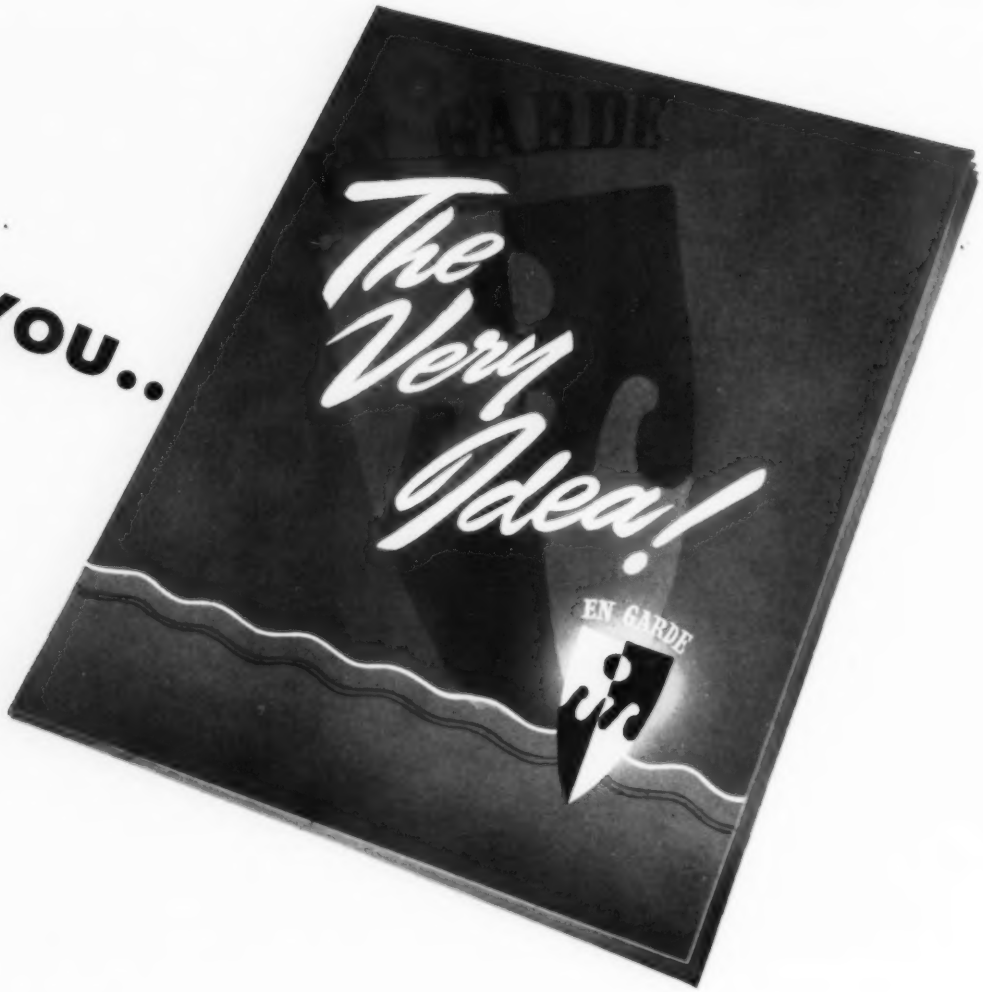
W. A. Bush, Secretary of Ungerer & Co., has been named general sales and advertising manager, an appointment which will enable the company to maintain closer sales supervision over its various branch offices, according to Kenneth G. Voorhees, president.

ARTHUR M. ADLER

H. B. BURNS

W. A. BUSH

for you..



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THOMAS B. CHADWICK

Cleveland Drug & Chem. Club Meets

Thomas P. Chadwick, new president of the Cleveland Drug and Chemical Club, and Cleveland sales representative of Chas. Pfizer & Co., was the official speaker at the club's celebration of the start of its fourth year on June 22.

At that time the balance of the new officers were installed, including Bus Parker, Mallinckrodt Chemical Works, vice-president; Ted Elliott, Elliott Sales Service, secretary; and Sam Katz, Celon Corp., treasurer.

Heads Pharmaceutical Advg. Club

Raphael M. Nacca, advertising manager of Organon, Inc., has been installed as president of the Pharmaceutical Advertising Club, an organization of advertising directors of drug manufacturing concerns. He has been a member of the club for ten years, and an officer for the past four.

Additional new officers are G. L. Long, E. R. Squibb & Sons, vice-president; Ira Contant, Hoffmann-La-Roche, Inc., treasurer; and Sidney Jackson, Ciba Pharmaceutical Products, Inc., secretary.

New Warehouse for A. H. Robins

The A. H. Robins Co., Inc., has opened a warehouse in Dallas at 419 South St. Paul Street to handle orders from Texas, Oklahoma, western Louisiana, and the area around Wichita, Kansas. This is the third warehouse to be established by the company, the others being in Los Angeles and Richmond.

Hemphill Promoted by Bristol Labs.

William J. Hemphill has been named assistant export manager of Bristol Laboratories Inc. He joined the company in 1947 and has specialized in the near-East markets for pharmaceuticals.

To Manage Colton's 2nd Plant

Kenneth B. Hollidge, executive vice-president of Arthur Colton Co., has been appointed general manager of the company's second plant recently established in Paducah, Kentucky. The new plant will produce punches and dies for the pharmaceutical trade, according to Howard N. Maynard, president. Mr. Hollidge will be assisted in management by William Vance, recently appointed plant superintendent.

The new plant had formerly been a part of the Ace Manufacturing Co. which is no longer active and is to be known as the Paducah Plant of the Arthur Colton Co. The addition of the Paducah plant is part of the plan for expansion which was set up when the Arthur Colton Co. became a division of Snyder Tool & Engineering Co. two and a half years ago.

KENNETH B. HOLLIDGE

Heads Cerebral Palsy Committee

J. P. Remensnyder, president and director of Heyden Chemical Corp., is serving as chairman of the Chemical Solicitation Committee for the Cerebral Palsy Society's city-wide campaign, according to Peter Grimm, chairman of the commerce and industry division. The committee will be composed of leaders in the chemical field and will conduct an intensive campaign within the industry to help reach the $750,000 city-wide goal.

Librarians to Meet at Abbott

Medical, hospital and pharmaceutical librarians from five states will meet at Abbott Laboratories on October 6 for the 1951 session of the midwest division of the Medical Library Association. Those states represented will be Michigan, Indiana, Illinois, Wisconsin, and Minnesota.

Among the speakers will be Louise Lage, assistant librarian, Lilly Research Laboratories, and Edith Joannes, associate librarian of Abbott Laboratories.

CSC Sets Up Development Group

Commercial Solvents Corp. has created a new group to conduct market development in industrial chemicals and has also reorganized the technical service division, with the purpose of providing more efficient service to customers. The group has been assigned special projects relating to the development of markets for both new and established products of the industrial chemicals division, according to H. J. Henry, vice-president in charge of sales.

Dr. Frank E. Dolian, formerly assistant manager of the technical service division, has been appointed manager and is being assisted by the following staff formerly of the technical service division: Kenneth W. Bayha, San Francisco; A. Mosher Cooke, Boston; Walter C. Gwinner, New York; and Louis L. Hallock, of the Terre Haute office.

The technical service division, of which Charles D. Goodale is manager, will devote itself to product quality control and technical service for all divisions of the company.

Marie Petersen Writes Song Hit

Marie Petersen, president of Marie Petersen Cosmetics, and a former premier ballerina with Ziegfeld, seriously injured her back some time ago while getting out of a car, necessitating many months of confinement at home. While recovering she tried her hand at song writing, coming up with about 67 tunes, among which was *Tennessee Hillbilly Ghost*, steeped in the Tennessee folklore of her home territory. Music and lyrics completed, she asked Beasley Smith, long-time friend, to collaborate with her—and the music suddenly became a hit, the demand for which, it is said, recording companies are finding difficult to satisfy.

MARIE PETERSEN

MORE *ORANGE* FLAVOR!

Flavor is the thing that makes your product stand out from others. And Exchange Oil of Orange *has* the flavor...that distinctive and preferred taste unique to oranges grown in the sunny, sheltered valleys of California.

Try Exchange Oil of Orange for yourself. Give it all your tests for *quality, uniformity* and *strength.* You'll like it...and you'll buy it!

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HOWARD F. SCHUM

Schum Appointed by Arner

Howard F. Schum has been appointed director of purchases and packaging of the Arner Co., according to Dr. Niels C. Klendshoj, executive vice-president. He succeeds W. A. Mason, former purchasing director and company secretary, who resigned.

Krebs with Miller Labs.

Peter J. Krebs has been appointed southeastern division manager of E. S. Miller Laboratories, Inc., with headquarters in Atlanta.

Stan. Specialty Changes Name

Standard Specialty & Tube Co., Rochester, Pa., changed its name June 1 to Standard Collapsible Tube Co. No change has been made in personnel or management.

Dowling Serving with Navy

Arthur L. Dowling, advertising and sales promotion manager and assistant secretary, Dodge & Olcott, Inc., was recently recalled to active duty in the United States Navy. Ruth Farnworth has taken over his duties as advertising manager until his return.

Alford's Latest Edition Published

The latest issue of L. P. Alford's "Principles of Industrial Management" has just been re-written and published. The work was revised by H. Russell Beatty, engineer, New Jersey Machine Corp.

Fischer with Miller Sales Agency

Louis H. Fischer has been appointed to the staff of the Miller Sales Agency as sales engineer, according to K. B. Hollidge, executive vice-president of the Arthur Colton Co. He will assist in the formation and production of pharmaceutical materials.

Miller Becomes Chairman of Board

Dr. C. O. Miller, formerly president of Kremers-Urban Co., has been elected chairman of the board of directors, and scientific director of the company.

Ray A. Johns, formerly executive vice-president, succeeds him as president. Robert J. Kremers was re-elected secretary and treasurer, Jack T. Clancy remained vice-president in charge of production, and David Sutton, vice-president in charge of domestic sales.

Downs Chairman Mail Ass'n Conf.

Charles S. Downs, vice-president and director of advertising of Abbott Laboratories, has been named general chairman of the 1951 Direct Mail Advertising Association conference which will be held in Milwaukee on October 17, 18, and 19.

Ballin Promoted by Whitehall

Douglas Ballin, Jr. has been appointed advertising manager by the Whitehall Pharmacal Co. and will work with R'chard C. Rettig, vice-president in charge of advertising and sales promotion activities. Mr. Ballin has been with the company since 1941.

McCarthy with Cutter International

Patrick T. McCarthy has joined the Cutter Laboratories International sales force and will cover the Province of Alberta, Canada. His headquarters will be the Calgary branch of the Laboratories.

Beauty Counselors Names two V.P.'s

George T. Hall and Florabell Pundt have been promoted to vice-presidents of Beauty Counselors, Inc., according to Norton S. Walbridge, president. Mr. Hall had formerly been in the sales department, and Mrs. Pundt had been in the sales research department.

GEORGE T. HALL

TOM MILLER

Miller on European Business Trip

Tom Miller, vice-president in charge of sales, Package Machinery Co., left July 7 on the Queen Elizabeth for an extensive business trip to Great Britain and the continent. He plans to discuss mutual problems and new developments with associated manufacturers and agents, and check on Package Machinery's equipment now being made there for European and Dominion customers.

Fago Represents Automatic Mach.

Charles Fago is representing U. S. Automatic Box Machinery Co. Inc. exclusively on the sale of their automatic packaging and paper box making machinery. He is succeeding Clay Willingham, who is leaving the Chicago area. Mr. Fago's headquarters is at the Chicago office, 209 West Jackson Boulevard.

Ungerer Opens New Chicago Branch

Ungerer & Co. opened their new branch office at 1791 West Howard St., Chicago 26, on June 1. It is under the joint management of Ira Bennett and J. R. Martin.

Dr. George G. Fries

Dr. George G. Fries, for many years associated with the aromatic chemical industry, died June 17, at the age of sixty. Born in Cincinnati December 25, 1889, Dr. Fries received his A. B. degree from Cornell University in 1909. In 1920 he founded the firm of Fries & Fries with his brother, Robert. Some years later he founded George G. Fries & Co., New York, and was engaged in selling aromatic chemicals to the trade. Dr. Fries is survived by his widow, Madeline Ferrera, whom he married in 1918, and a daughter.

● *And uniform savings for you!* For any variation in the beeswax base of your chemical, pharmaceutical or cosmetic preparations can cause additional expense in your laboratory and plant—and lost sales at your dealers' counters.

Natural refined beeswax is a small fraction of your total product cost. Yet the unchanging purity, texture and whiteness of Beehive Brand Beeswax can be the big help in keeping your product up to the high standards you have set.

FREE CONSULTATION SERVICE

The experimental data and practical manufacturing experience of nearly a hundred years' specialization in beeswax and beeswax compounds are at your service without cost or obligation. Write us about your beeswax problems.

WILL & BAUMER
Candle Co., Inc.
Syracuse, N. Y. **Established 1855**

SPERMACETI • CERESINE • RED OIL • YELLOW BEESWAX • COMPOSITION WAXES • STEARIC ACID • HYDISTEAR

READERS' QUESTIONS

CAKE MAKEUP: I am interested in obtaining a formula similar to that of Max Factor Pancake Makeup. Providence.

I should like to point out that the Factor products are covered by U. S. Patents 2,034,697 and 2,101,843. However, I think you will be able to prepare a suitable product by following the principles laid down in the method given below. It is first necessary to make a pigment blend as follows:

Talc	**60 per cent**
Kaolin	**20 " "**
Zinc oxide	**10 " "**
Titanium dioxide	**5 " "**
Light calcium carbonate	**5 " "**
Iron oxide colors	**sufficient**

This pigment blend is included in the following formula:

Pigment blend	**81.4 per cent**
Sorbitol solution	**4.1 " "**
Propylene glycol	**2.4 " "**
Sorbitan sesquioleate	**9.7 " "**
Mineral oil	**2.4 " "**
Perfume	**sufficient**
Preservative	**"**

Pulverize the pigment mixture to get a uniform dispersion of color. Mix the sorbitol syrup with the propylene glycol and preservative, and spray the liquid into the powder while it is being mixed in a dough mixer. Combine the mineral oil and sorbitan sesquioleate, add perfume, and spray onto the powdered mass while it is agitated in the dough mixer. Transfer to a Fitzpatrick tablet granulator or an equivalent machine. After granulation, the mass is ready for preforming and compression.

ALCOHOLIC SUNSCREEN LOTION: I need a good formula for an alcoholic sunscreen lotion. Can you help me? Cincinnati.

I think you can meet your requirement by trying something on the following order:

Menthyl salicylate	**9.0 per cent**
Glycerine	**3.0 " "**
Borax	**2.0 " "**
Alcohol	**15.0 " "**
Water	**70.5 " "**
Perfume	**0.5 " "**

Heat the water, dissolve the borax in it and add the salicylate. Stir until dissolved. Mix the perfume with the alcohol, add the glycerine and stir this into the menthyl salicylate solution. Filter. If it is desired to color the solution add a sufficient quantity of spirit-soluble brown. Of course, other compatible sunscreen agents may be used instead menthyl salicylate if required.

ANTI-PERSPIRANT FOR FEET: We are interested in a formula for a lotion to be used on perspiring feet. Could you give us some idea as to how such a product should be formulated? Detroit.

Perhaps something along the following lines will serve as a basis for experimentation:

Formaldehyde	**0.50 per cent**
Chlorthymol	**0.20 " "**
Salicylic acid	**2.00 " "**
Glycerine	**10.00 " "**
Alcohol	**33.00 " "**
Water	**54.05 " "**
Perfume	**0.25 " "**

Dissolve the salicylic acid in the alcohol and add the perfume oil and formaldehyde. Dissolve the chlorthymol in alcohol, add the glycerine. Mix both solutions with the remainder of the water and filter.

ELECTROCARDIOGRAPHIC JELLY AND PASTE: We shall very much appreciate your sending us promptly formulas for electrocardiographic jelly and paste. Philadelphia.

An electrocardiographic jelly can be made along the following lines:

Sodium chloride	**1460 Gm.**
Pumice powder	**1810 Gm.**
Gum tragacanth	**110 Gm**
Potassium bitartrate	**56 Gm.**
Glycerine	**336 Gm.**
Water, to make	**4 Liters**

An inexpensive and yet efficient electrode paste can be made from:

Glycerine	**5.0 parts**
Starch	**10.0 "**
Sodium chloride	**29.0 "**
Water, distilled	**100.0 "**
Menthyl parahydroxybenzoate	**0.2 part**
Pumice	**5.0 parts**

Make a paste of the starch by adding 20 parts of cold distilled water and stir until smooth. Add the sodium chloride, the methyl parahydroxybenzoate and the glycerine to the remainder of the water. Mix the two solutions, add the pumice, heat to boiling, stirring until a uniform paste is formed. It is unnecessary to let the starch paste stand for any length of time or to strain it before using. It should be stored in tightly closed containers at room temperature, as higher temperatures will cause the paste to dry out. Temperatures of 40 °C. will caused the expose surface to become rubbery. The preparation under the exposed surface, however, is not affected. It should be placed in tubes while still warm.

Your Packaging Problem

FOR A SALES-WINNING, LOW-COST SOLUTION

PUT IT UP TO "PACKAGE"

As builders of the most widely used and most versatile line of packaging machinery, we have gained unexcelled experience in solving packaging problems. In fact, our engineering and designing staff is one of the busiest departments in our organization—for the packaged goods industry constantly demands improvements to obtain new sales stimulus as well as lower costs. And for the past 38 years, leading manufacturers in ever increasing numbers have turned to us when seeking the right package and the machine to produce it.

We know the types of packages that have the greatest consumer appeal . . . The materials to use for eye-catching effect and utmost protection to the product . . . And the production set-up that will insure lowest cost.

Today our line of machines includes not only wrapping machinery for practically any type of product, but also advanced forms of carton-making machines, closing machines and bag-making and filling machines.

Why not take advantage of these outstanding facilities whenever you have a problem of package improvement—or are seeking new ways to lower your costs? Write or phone our nearest office.

Our leaflet "Packages that Sell" will be mailed on request.

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.

MANAGEMENT FORUM

By Francis Chilson
INDUSTRIAL CONSULTANT

Factory Size

How big can a one story factory be without loss in efficiency? is a question often asked and it's a tough one to answer because different firms in the same industry have different production and material handling problems. Some firms, as in the animal extractive field, handle large tonnages of raw material to produce a few pounds of finished material. The same situation applies in the manufacture of many synthetic organic chemicals. Botanical drug extraction involves similar ratios. In some instances the raw materials used nearly balance the weight of finished product. In still other cases the weight of the finished product (by virtue of the addition of water) far exceeds the weight and bulk of the raw materials. The whole cosmetic industry is a good example of this condition.

Still there are firms in the industry with a million feet under a single story roof. In my opinion this would appear to be very close to maximum for the drug and cosmetic industry because of the variety of the products we manufacture. The one virtue that a multi-story building has is that materials and supervisory personnel can bypass departments, whereas in many single story layouts bypassing is not possible. It is for this reason that I have always advocated arranging warehousing and operating functions in parallel lines. Such an arrangement permits storage of materials near operating centers without actually decentralizing the warehouse functions. This method of layout also permits gradual absorption of warehouse space by expanding operating departments.

However increasing building costs are forcing attention to building size; to warehouse construction and warehouse methods. Good warehousing means stowing as much material as possible in as few square feet as possible. This means higher and more compact stacking. Higher stacking also means less travel distance in handling the same volume of material. Higher stacks requires higher warehouses and high warehouse space is not always desirable as expansion space for operating departments, many of which need but little head room. Another thing being forced upon our attention is that warehousing needs only a shed with comparatively little lighting or heating and with few or no employee facilities. Hence the same quality of construction is not needed for warehousing that is needed for operating departments, which require all manner of service wiring and piping as well as facilities for the use of employees. Construction costs have not yet reached a point where I would recommend separate warehousing excepting in a few special cases because construction costs are still less important than handling costs, which also are increasing at a very rapid rate in spite of all the contrivances invented to simplify and mechanize the operation.

But the time may come, as it has already in some instances, when it may prove to be economical to separate warehousing functions altogether. When it does come I imagine that warehousing will be subdivided into two or more classes: those materials which will sustain their own weight and hence can be piled three or four pallets high, and those which will not carry their own weight and hence must be racked or stacked only one pallet high. In this lies the solution to the problem of having available contiguous warehouse space for the expansion of operating departments. Fragile materials can be stored in the operating building thus constituting a separate warehouse area and bulk materials in a separate high warehouse area.

Much has been done to increase warehouse efficiency by higher stacking and reduction of aisle widths. A lot more remains to be done. We still waste from thirty to fifty percent of our warehousing space in access aisles.

I always advocate the use of racks over cross aisles. These racks are made high enough to permit the passage of a lift truck under them and they in no way interfere with palletizing in the main or along the cross aisle. Once I made a layout for a warehouse which had only two parallel aisles; one to feed material into storage and

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● Where speed, cleanliness and accuracy are required, the Arenco Filler cannot be surpassed. Whether you're packaging water-thin suspensions of antibiotics, medium viscosity creams or heavy non-flowing compounds, they all can be handled efficiently by the Arenco.

Not only is the Arenco versatile in the range of products it fills, but it fills an extreme range of containers as well—from tiny 1 cc vials to giant 250 cc (8¾ ounce) tubes.

Sterility Only stainless steel or resistant metal contacts the product being filled. All of these parts—including the stainless steel single cylinder pump—are easily and quickly demountable for cleaning and sterilization.

Changeovers Size adjustments and material changeovers take only moments—not hours. And the Arenco will fill most products at speeds from 40 to 55 containers per minute.

Accuracy Even when the smallest quantities are being filled, the Arenco maintains the high degree of accuracy for which it is world famous. Recent tests on filling 1 cc ampoules show accuracy to ±1%. "Give-away" on larger fills is even less.

Service The same organization which services 2,000 other Arenco machines in all parts of the country is available to service your Arenco filler. Competent mechanics and complete stocks of spare parts are always on hand. The nearest Arenco representative can supply full details. Contact him now.

Hopper or filling head to fit product. No container, no fill. Automatic cleaning and cap tightening for tubes.

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King & Anderson, 1355 Market St., San Francisco 3, California
Tom McLay, P. O. Box #14, Port Deposit, Maryland
Packaging Equipment, Inc., 2013 Olive St., St. Louis 3, Missouri
Burnard C. York, Packaging Machinery, 5807 W. North Ave., Chicago 39, Ill.

the other to remove it. All the space between the aisles was filled with racks three high made of roller conveyor sections, pitched slightly toward the discharge aisle. The distance between aisles was forty feet so that each rack was designed to hold ten pallets. Like many good ideas this one died a-borning because of the cost of the conveyor sections and the necessary supporting racks.

The use of modern wide span trusses like the Austin truss may someday make it possible to load a warehouse area from the top in much the same manner that the hold of a ship is loaded, thus eliminating aisles altogether. Traveling overhead cranes would be necessary of course and possibly special designed pallets that could be engaged from the top. This may be but a pipe dream but it will have served its purpose if it stimulates your imagination and makes you realize that in spite of all improvements we still haven't licked the warehousing and material handling problem. And remember all manufacturing and packaging is but a part of the problem of handling materials.

Executive Rating Scale

Inasmuch as I frequently am called upon to interview men for executive posts I had to develop my own rating scale or check list to keep me from forgetting to investigate characteristics that might have a decisive bearing upon the individual's ability to function efficiently on the job. When these assignments come to me as part of my work, I make, as a preliminary a very careful analysis of the job to be filled. I then try to assay as accurately as possible the personalities of the executives with whom the candidate will work. This study enables me to change the point values for different jobs. Thus in one job, experience may be far more important than technical training; in still another, imagination may be more important than either of these factors. The individual traits are rated: 1 poor; 2 average; 3 outstanding.

It is not easy to appraise traits of character and personal qualities accurately. Sometimes several interviews may be necessary. Investigation of references is of course important and better still are the opinions of people with whom the candidate has had business and social contacts.

The latter should be secretly obtained, a procedure by no means as difficult as it seems.

EXECUTIVE RATING LIST

Experience
- Business
- Civic
- Social
- Travel
- Military
- Sports

Education
- Technical
- General
- English—oral
- English—written

Personality
- Humor
- Manners
- Thoughtfulness
- Appearance
- Health
- Affability
- Poise
- Dignity

Characteristics
- Intelligence
- Imagination
- Integrity
- Decisiveness
- Aggressiveness
- Diligence
- Thoroughness
- Cooperativeness
- Loyalty
- Temperament

In using the list I assign, after a thorough study of the job and the organization, a point value to each of the qualities on the list, totaling 100 for all. By multiplying the individual's rating in each of the considered attributes with their respective point values a composite rating is obtained, which is of inestimable value in comparing candidates. Very often a key executive is employed because the Big Boss took a fancy to the way he parted his hair. Some men make a deeply impressive appeal at the first interview because they have glittering personalities—but nothing else. And it is through these first good impressions that a lot of unqualified men get jobs that are far beyond their capacities.

The Telephone

This symbol of progress. This damned instrument. This insistent intruder. This buzzing, ringing, clanging irritant. This hell bell. . . .

"Hello, dear. Can I be home early tonight? Sure Okay. Why don't you ask the Smiths over for dinner . . . Excuse me, gentlemen. As I was saying when the phone rang,—if the new plant costs more than a million. . . ."

Brrrinng! Brrinng! Brrinng!

"Damn it! . . . Oh, a hello, Joe. No, I can't play golf tomorrow. Up to my ears in work. Gotta build a new plant. Give you a ring next week . . . Where was I? Oh yes. Now if we have to lay more than a million on the line. . . ."

Brrinnnnnnggggg! Brrrrrrrrrinnnnnggggg!

"Hello!!!! Oh, hello, honey. No, I'm not cross. I'll call you later. I *can't* talk to you now! I've got a couple of guys in my office. I'm in conference. No! No! I tell you I'm *not* mad at you. I'll call you just as soon as I can, sweet . . . That's m'niece, you know.—As I wasy saying. A mill. . . ."

Rinnnnnng! Rinnnng! (*The bells of hell go ting-a-ling-a-ling!*)

"Yes, Oh, hello Mike. No you didn't leave your

HEADACHES are TABOO

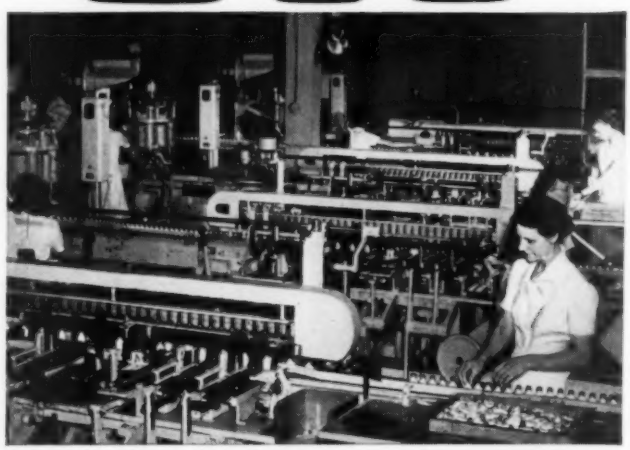
when BAYER aspirin and PNEUMATIC machines go to work

WHEN a headache or pain plagues you, chances are you chase it—and fast—with famous Bayer Aspirin. You and millions of others! That means a big volume packaging job for STERLING DRUG, INC. who make and market this popular remedy.

Like other leaders in the pharmaceutical field STERLING avoids annoying and expensive production headaches by capping and labeling with Pneumatic machines. Day in and day out their Pneumatic equipment does the job with smooth running, unfaltering efficiency. You'll start to save money, too, from the very first day you employ Pneumatic machines to perform at "lower cost per container" in your plant.

★ ★ ★

PNEUMATIC SCALE CORP., LTD., 70 Newport Ave., Quincy 71, Mass. *Branch Offices: New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, England.*



Installation of Pneumatic Labeling and Capping equipment at The Bayer Co., Division of Sterling Drug, Inc., Trenton, New Jersey.

PNEUMATIC

PACKAGING AND BOTTLING MACHINERY

fountain pen in my office, god damit! Why don't you put a chain on it? . . . Now to get back where we left off. I've had a helluva busy morning. That damn phone never stops ringing. . . .

Riiiinnnnggg! Riiiinnnnggggg!

"Oh, hiya Bill. Glad you called. Almost forgot that lunch date. I'll see you at L'Aiglon in a coupla minutes . . . Sorry, gentlemen. We'll have to get together this afternoon. Shall we say about three? Jeze! Am I busy! Don't know where the time goes to."

The following information is supplied by manufacturers of the equipment described and claims made below by these manufacturers are passed along for what they are worth. Presentation of such notice in this department is not to be taken as endorsement of the claims or of the equipment.

New Type Evaporator

The Rodney Hunt Machine Co. of Orange, Massachusetts, has announced the manufacture of a novel line of evaporators employing the Swiss (Luwa process) principle of concentration from a turbulent thin film. Company officials report the new Rodney Hunt units, called TURBA-FILM Evaporators, are unique in that concentration is accomplished continuously in a single pass requiring only seconds through features which completely change previous concepts of evaporation. By permitting rapid concentration at minimum temperatures, the finished products are said to have superior qualities. For example, the flavors and nutritional properties of such heat sensitive products as food and pharmaceuticals are said to be much improved.

Although Rodney Hunt has introduced numerous refinements, similar Swiss-made evaporators have been successfully employed on a commercial scale in the concentration of a number of diversified, high quality products throughout the world. These include citrus and other juices, whole and skim milk, vitamins, sugar solutions, coffee extracts, liquid eggs, other foods, pectin solutions, pharmaceuticals, chemicals, and solvents. Company officials also indicated that their evaporators are ideally suited as novel *heat transfer units* and that they had found many applications in this field. Comparatively little floor space is required for Rodney Hunt TURBA-FILM Evaporators, and they are available in stainless steel in various sizes up to 2,500 pounds of water evaporation per hour. Larger capacities can be secured by arranging two or more units in parallel, ordinarily to the same auxiliaries, and they can also be operated in series so as to reduce heating requirements.

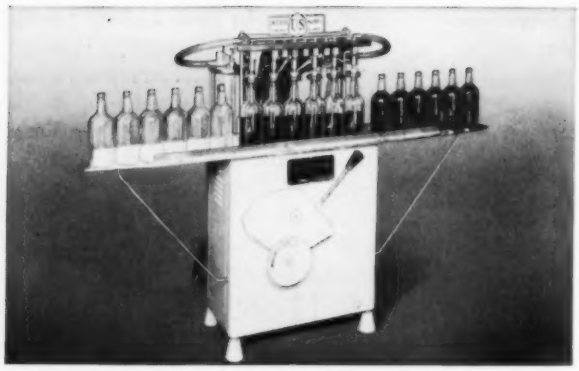
Rodney Hunt officials stated that a small size commercial TURBA-FILM Evaporator is in operation in a newly completed laboratory and that portable laboratory units will be available for on-the-spot evaluation of those materials which cannot be transported satisfactorily. Very shortly a new type of spray dryer will be placed on the market. Research is also being carried on with other processing equipment and procedures.

Established in 1840, Rodney Hunt Machine Co. has long been one of the country's leading manufacturers of textile finishing machinery and industrial rolls, having pioneered in the application of stainless steel in these fields. The manufacture and sales of the TURBA-FILM Evaporator and related products for the food, chemical and pharmaceutical fields will be carried on through a newly formed Process Equipment Division of the Rodney Hunt Machine Co. Arne R. Gudheim has been appointed Sales Manager and Douglas A. Rogers has been named Chemical Engineer for the new line. Mr. Gudheim is a graduate of Virginia Polytechnic Institute, and also did post-graduate work at Columbia University and the Massachusetts Institute of Technology. Before coming to Rodney Hunt he was asociated with Lever Brothers in the Edible Research Department, where he was responsible for several of the company's developments in shortening and margarine products. Earlier, he was connected with The Proctor & Gamble Co. Mr. Gudheim is a member of the American Chemical Society, American Oil Chemists' Society, and the Society of Food Technologists.

Mr. Rogers, who graduated from the University of Washington, was formerly Supervisor of Research for Lever Brothers, and is a specialist in vacuum distillation and processing. He is a member of the American Chemical Society and a Junior Member of the American Institute of Chemical Engineers.

Arenco Filler

Arenco Machine Co., Inc. is manufacturing a vial filling machine which is able to fill containers ranging from 1cc. vials to 250 cc. tubes at the rate of from 40 to 55 containers per minute. The filler is so constructed that the product being filled contacts nothing but stainless steel or resistant metal; all parts can be easily removed for cleaning and sterilizing.



The Most Automatic One-Man Filler

A flexible, versatile unit that capitalizes every possible automatic machine action. Equipped with the same efficient vacuum principle that has made U.S. fully automatic fillers famous the world over. Adjustable for handling all types of containers from all glass sprinkler tops to gallon sizes. Get full details of this Model B-49 Straight-line Vacuum Filler. Write at once for new Bulletin B-49.

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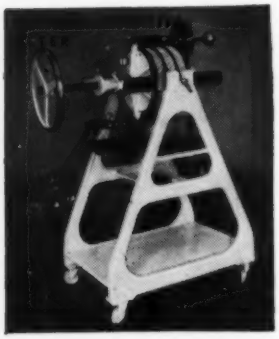
OFFICES: Boston—Dallas—Houston—Denver—Los Angeles—New York—Phoenix—Portland—San Francisco—Seattle—Tampa—Montreal—Toronto—Vancouver—Winnipeg—New Orleans and Philadelphia
EXPORT OFFICE: Toledo, Ohio



ERTEL BACTERIA RETENTIVE FILTERS

...sizes from 1 to 10 liters of aqueous solution per minute

Balanced body of filter permits easy rotation to vertical operating position. Illustration shows filter in loading position.

★ One of the most widely used filters for safeguarding saline and dextrose solutions, sodium citrate for whole blood and blood plasma preparation, penicillin, intravenous fluids, etc. Provides dual filtration and special fibre removal feature. Can be provided with special steam generating unit for complete sterilization of circulatory passages and filter disks. Described in Catalog 18, please ask for your copy.

ERTEL SERVICE: Send sample of your product for laboratory test. We will filter and return with enough recognized Ertel Asbestos Filter Sheets to prove the superior results in your plant.

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As corrosion-resistant metals become more critical, the extra service of "Metalsmiths" utensils grows more valuable. Well designed, durable, expertly fabricated to preserve wearing qualities. Additional items (not shown) are beakers, stock pots, batch cans and shovels. Try "Metalsmiths" — compare the value.

WRITE FOR LATEST CATALOG — PRICE LIST

METALSMITHS
Division of **Orange Roller Bearing Co., Inc.**
568 White Street Orange, N. J.

New Automatic Capper

Completion of a new automatic capping machine exclusively for use in feeding, closing and sealing the Upressit caps and tamper-proof over-seals has been announced by the Upressit Products Corporation, New York City. This machine, the first model of its type, was developed by Theodore Cornelius, also of New York, and built by the Roe Machine Works, Tenafly, a New Jersey.

Fully automatic, except for manual loading of cans, caps, and bands, this new machine will handle all sizes from pint cans to two gallons. Irrespective of size it will cap, band, and crimp the bands on 21 cans a minute. The automatic five-step feeding and closing operation reportedly offers a highly efficient means of closing cans. Each operation is visible; an important feature in automatic equipment.

Mr. Cornelius said, "This machine promises to make Upressit's well-known re-seal closures even more popular. We have produced this unit for the benefit of manufacturers at a price well within range, bearing in mind that speed of operation should conform to the average filling speed, as applied to such a variety of products including liquids of high or low viscosity."

The capper is constructed entirely of steel and fully equipped with ball and roller bearings; power is furnished by a one-half HP standard or explosion proof electric motor. Of simple design, the capper is easy to adjust and lubricate. It is 6′ 6″ in length and 6′ in height with a width of 40″ and weight of 659 pounds.

A conveyor belt, consisting of two 4½″ smooth chain belts, connected by a series of lugs which act as centering points under the feed chutes and sealing devices, houses eight cans. The travelling chain belt is mechanically timed with the action of the vertical closing devices, and moves intermittently only after each action of the feeding and closing operation is completed.

Compact and portable, the machine is fitted on legs which can be varied in height to suit filling operations. The closure seals airtight, preventing loss from leakage, evaporation, and staleness. The visible tamper-proof bands assure the consumer of the authenticity of the contents. Uses for the caps include containers for paint and varnishes, lacquer, shellac, turpentine, linseed oil, chemicals, insecticides, food, ink, alcohol solvents, syrups, oil, waxes, rubber cement, and powders.

Pallet Loader

The Lamson Corporation, Syracuse, N. Y., announces a new Automatic Pallet Loader for 36″-wide pallets. Previously 40″ was the minimum pallet-width handled by the mechanical loading device. The new modification now brings the time and labor saving advantages of *mechanized* pallet loading to those industries whose products are best palletized on 36″-wide pallets—for example, the bottling industry.

Designed to eliminate *manual* pallet loading in mass production operations, cartons or cases are conveyed to the top of the loader where electro-mechanical

devices position them and push them onto pallets. Not only does the machine position alternate containers for best pallet arrangement, but when more than one size container is in production, the machine automatically positions intermittent predetermined pallet lots so that each is stacked properly on its pallet. A magazine within the pallet loader automatically supplies pallets as preceding loads are completed.

Loaded pallets leave the machine by roller gravity conveyor. They are picked up by fork truck and transported to storage or directly onto carriers.

When used in bottling plants, the Automatic Pallet Loader handles both "flat" and full size cases.

For further information on the use of the Pallet Loader for handling specific types and sizes of containers, write the Lamson Corp., Syracuse, N. Y.

New Heater For Air, Atmosphere, Gas or Liquids

These Brown Fintube Heaters consist of a stainless steel outer shell with expansion section and an inconel center tube with integrally welded extended surface nickel fins. The equipment is designed to heat air, special atmospheres, gases or liquids without contaminating them with the products of combustion. The manufacturer reports temperature ranges to 1600° F,—from atmospheric to very high pressures. The heaters can be controlled accurately within very close limits, and use either oil or gas as fuel.

The several units already in service have demonstrated high fuel efficiency and high thermal efficiency. They are quick starting. There are no refractories to heat, consequently, the heaters can be put on full stream in just a few minutes. The equipment is easily installed. It can be mounted on the floor or overhead, in any waste space, and is furnished complete, including burner, fan and all control equipment.

Ideally used to insure accurate control of processing when air is used in drying C. P. solid chemicals, dehydrating foods, drying lumber, annealing glass, etc.; for pre-heating furnaces; for the high temperature and high pressure testing of jet turbines, compressors, etc., and for other services where clean, hot air, gases or liquids are needed. Built on order only to meet specific requirements. For more complete details write Brown Fintube Company, Elyria, Ohio.

Upjohn

tablets
Ferrated
Liver Concentrate

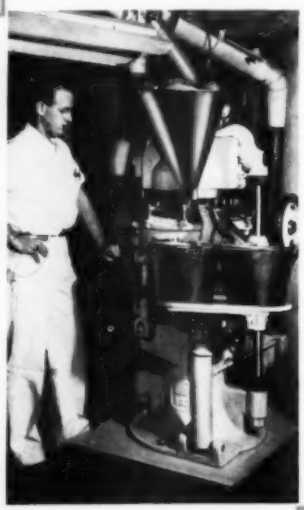
THE UPJOHN COMPANY, Kalamazoo, Michigan, uses Stokes tabletting machines to produce their FERRATED LIVER* Concentrate in tablet form.

"Slugged" first on a Stokes DD-2 tabletting machine, the product goes directly through a mill to produce the granulation which is then run on the Stokes BB-2 tabletting machine. All tabletting operations are carried on in a specially conditioned room (humidity held below 10%) because of the hygroscopic character of powdered liver.

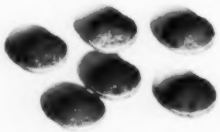
Whether you want tablets by the hundred or the million . . . tablets of accurate weight, uniform density, finest appearance . . . Stokes has the right tabletting machines and proved operating techniques for practical and profitable manufacture. And . . . the necessary auxiliary equipment to assure complete formula success.

Stokes solves tabletting production problems from adaptation of formulae to complete plant layout . . . confidential recommendations are yours for the asking.

Trademark of The Upjohn Company.



Upjohn SLUGS



Upjohn UNCOATED TABLETS

COATED TABLETS Upjohn

STOKES

STOKES MAKES
Plastics Molding Presses,
Industrial Tabletting
and Powder Metal Presses,
Pharmaceutical Equipment,
Vacuum Processing Equipment,
High Vacuum Pumps and Gages,
Special Machinery

F. J. STOKES MACHINE COMPANY, 5932 TABOR ROAD, PHILADELPHIA 20, PA.

New Packeting Machine

Production of the new "Uni-pak" was announced today by the Sperry Corporation, E. G. Staude Division, *2673 H* University Avenue, St. Paul 4, Minn. It has several outstanding features as stated by Paul E. Fischer, head of research and engineering. Recently chief of the mechanical engineering research department of General Mills, Fischer rejoined the Sperry organization the latter part of last year.

The Uni-pak will accurately meter powdered material into individual envelopes at high speed. It heat-seals materials such as cellophane, foil, paper or fibreless cotton film. A continuous strip of envelope material unreels from two rolls. It is particularly applicable to powdered milk, instant coffee, chocolate and other drug and beverage powders, because the proper amount for a single cup or glass is scientifically measured. The machine can make two sizes of envelopes at a time—one on each of two production lines.

The Uni-pak is completely automatic. It operates on 220V, 60-cycle, single phase, ⅓ HP motor. The floor size is 2′ x 4′.

Diesel-Hydraulic Lift Truck

A new industrial fork lift truck, powered by a diesel engine and equipped with a hydraulic transmission was announced here today by Elmer F. Twyman, Vice-president-in-charge, Philadelphia Division, Yale & Towne Manufacturing Company. Called the "Diesel-

Lift," this new truck is specifically designed for applications where fire hazards exist, where there is a limited amount of fresh air, and in outdoor areas where continuous heavy-duty operation is a necessity.

This is the first unit of this type commercially available in the United States, and it was publicly demonstrated for the first time at the National Materials Handling Exposition in Chicago, April 30 to May 4, 1951.

Drum Transfer Pump

A new air-operated pump—called the Fast-Flo—for quick transfer of fluids and semi-fluids from original to other containers has just been announced by Gray Company, Inc., of Minneapolis.

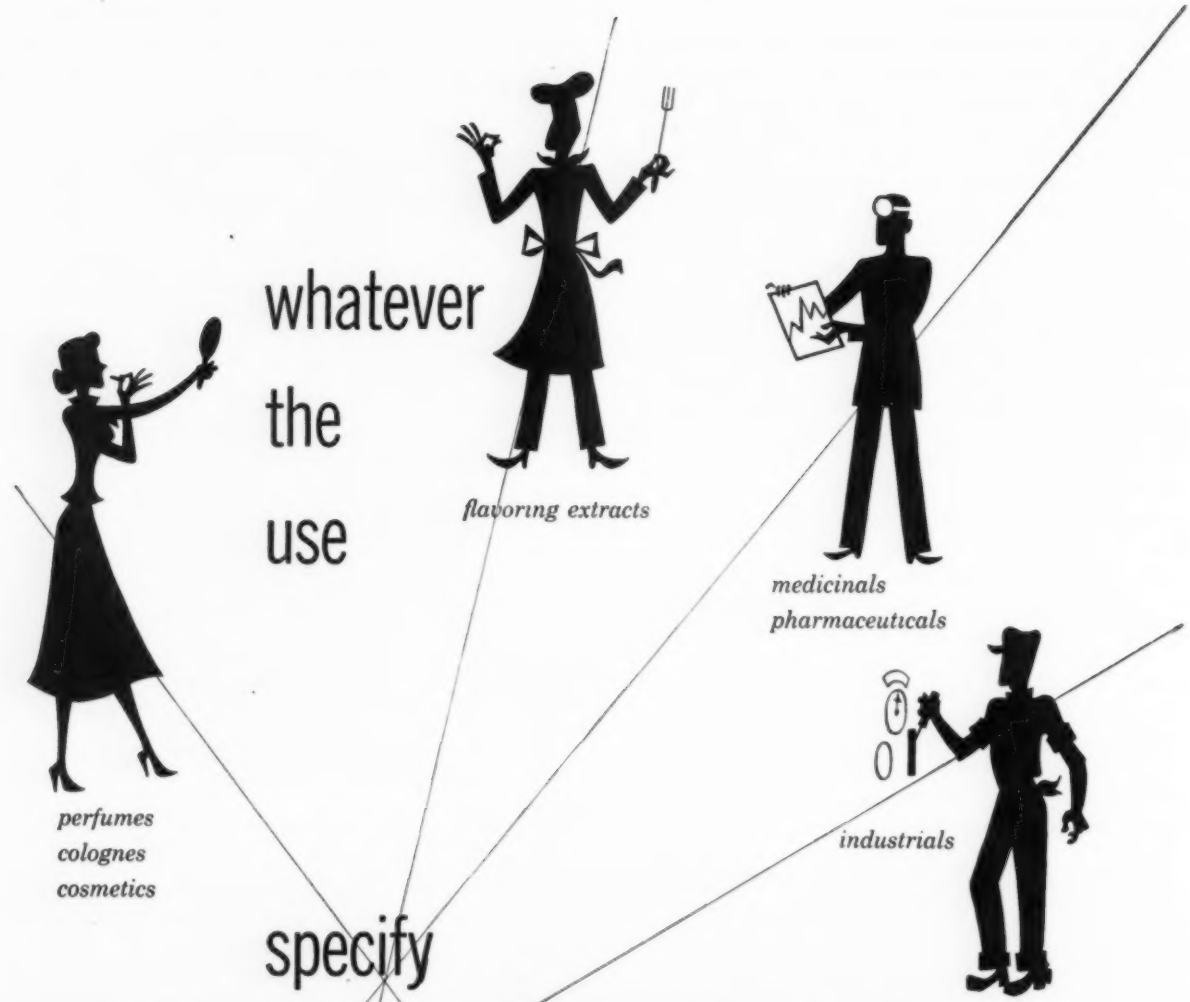
Delivery up to 18 GPM, at an operating pressure of 150 lbs., is claimed for the Fast-Flo Pump. Light oils, for instance, or materials of similar consistency, can be pumped at that rate. Delivery can be regulated to any degree of speed below 18 GPM.

Valuable production time is saved with this low-priced pumping unit because many manually handled jobs can be eliminated. The transfer of non-corrosive pharmaceutical chemicals, essential oils, alcohol, flavoring, and many other substances used in the manufacture of drugs and cosmetics now takes only a fraction of the time formerly required.

Spillage—which causes messy, slippery floors—is reduced to a minimum when a Fast-Flo Pump is used, with the result that slipping accidents are less frequent and plant "housekeeping" becomes considerably easier.

Since the new transfer pump weighs only 15 lbs., one man can handle it easily. Fits all drums with 2-in. openings. Includes bung hole adapter; steel spout with hook; air control valve; and Snap-On Air Line Coupler. Over-all length of pump, 52 in.; usable length of pump riser tube (less bung adapter), 34¾ in.

For additional information about the new Fast-Flo Transfer Pump, or other Graco products, write the Industrial Division of Gray Company, Inc., Graco Square, Minneapolis 13, Minnesota.



CSC ROSSVILLE ALCOHOLS

Rossville Hexagon® Cologne Spirits . . . Rossville Algrain Alcohol U. S. P. . . . and Rossville Gold Shield® Alcohol U. S. P. — each of these fine alcohols is the acknowledged standard of quality in its respective fields of usefulness.

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PRODUCTS OF THE INDUSTRIAL CHEMICAL DIVISION: Ethyl Alcohol and Derivatives
Acetone • Butanol and Derivatives • Crystalline Riboflavin • Methanol • Amines • Nitroparaffins

COMPOUNDER'S CORNER

Preparations for Pruritus

The general practitioner, says H. Goodman (*GP* 3:63, April, 1951), sees many patients who complain of itching, but, despite all efforts, the physician may not be able to find a cause for the sensation. To combat this condition, many antipruritic remedies are available. Among these is benzocaine, which should be prescribed with "extreme caution." The prescribing of phenol and of menthol is also discouraged.

Goodman suggests that itching with no discoverable cause may be relieved by the following dusting powder:

Bentonite	**30 parts**
Talc	**10 "**
Magnesium carbonate	**30 "**
Magnesium stearate, to make	**100 "**

Magma of bentonite, boiled starch paste and improved Lassar's paste help to relieve itching of undiscoverable cause. The improved Lassar's paste is made as follows:

Starch	**24 parts**
Water	**50 "**

Rub the starch in the cold water, until smooth. Heat with constant stirring until a translucent paste forms, then incorporate:

Zinc oxide	**24 parts**
Mineral oil, low viscosity	**8 "**
Sorbitol solution (Sorbo*)	**8 "**
Polyoxyethylene sorbibatan monostearate (Tween 60*)	**8 "**
Lard to make	**50 "**

*Atlas Powder Co., Wilmington, Del.

Bathing, says Goodman, always excites "after-bath" scratching or rubbing to patients with itching skin, although very cold or very hot water acts to relieve the immediate itching sensation. One pound of boiled starch added to the bath water also helps relieve the itch. A bran bath is helpful in relief of the itch of essential pruritus. One pound of bran bought in a feed store (not the kind sold in cartons for breakfast food) is placed in a porous linen bag under the hot water tap or in a basin of very hot water. After the tub is filled with water at comfortable temperature, the patient squeezes the bag once and lets the cloudy water from it enter the tub water.

Old-fashioned oatmeal, the kind requiring several hours for preparation by cooking, may be substituted for the bran. The oatmeal is placed in the porous linen bag and the soaking and squeezing procedures are the same as for the bran. The cloudy water does the job of relieving the itch. Recently, a concentrate from oatmeal has been made commercially available for colloid baths and soapless cleansing. It requires neither boiling nor straining.

Preparations for Hiccoughs

In discussing new types of medication, G. Perrins (*through Pharm. J.* 166:230, 1951) called attention to the following two new preparations which were formulated for the treatment of hiccoughs:

Tincture of myrrh	**96 min.**
Rectified oil of amber	**96 min.**
Spirit of chloroform	**1 fl. oz.**
Spirit of ether	**1 fl. oz.**
Compound tincture of cardamom	**4 fl. oz.**
Morphine tartrate	**¼ grain**
Cocaine hydrochloride	**⅓ grain**
Gin, or 20 per cent alcohol	**60 min.**
Simple syrup	**60 min.**
Chloroform water, to make	**½ fl. oz.**

Sulfur Lotion for Acne

A group of one hundred and twenty-five university students with acne (109 male, and 16 female) has been treated by N. M. Wrong (*Brit. J. Dermal. & Syph.* 62:491, 1950) with the special sulphur lotion as recommended by MacKee:

Sulphur	**7.5 parts**
Sodium mixed alkyl benzene sulfonate	**110.0 "**
Antipyrene	**54.0 "**
Triethanolamine	**100.0 "**
Propylene glycol	**560.0 "**
Water	**168.5 "**

However, of these cases, only 72 persisted with the new treatment for at least three months. Within the first week or two of treatment there was in each case a mild reaction in the form of redness and burning, followed by desquamation. The patients were instructed to decrease the frequency of application for a few days. A hardening of the skin then occurred, and the lotion could be used without discomfort and massaged into the skin daily, or twice daily. At the end of the three months' period of treatment, in 75 per cent of the 57 cases the results could be classified as "excellent". No severe reaction suggestive of true sensitivity occurred in the treated series. After use of the lotion for some weeks, itching of the skin was complained of in some cases, and in some this was the cause of discontinuance of the treatment. In others the "falling by the wayside" was due to inertia.

Alum Blocks and Pencils

In considering the production of blocks and pencils used to treat the irritations and nicks that occur during shaving, H. Herwit (*Alchimist* 5:129 and 150, 1951) remarks that present tendencies are to combine astringent and hemostatic action in one product. Potash alum or aluminum potassium sulfate is the basic raw material of these blocks or pencils. Additional ingredients may include ferric chloride, which has a pronounced hemostatic action. Glycerine is also a beneficial addition, and borax may be included because of its effect on the skin. Menthol has a refreshing action and hence forms a useful component. Opacity is obtained through the use of zinc oxide, which also exerts a favorable action on the epidermis. If perfumes are employed in the pencils, the crystalline compounds are most suitable.

Herwit stresses the importance of replacing any water of crystallization lost when melting potassium alum. In order to obtain exact information on this point, the vessels are weighed from time to time. At constant weight, the other substances are added and the mass is poured into molds and allowed to crystallize. If more water evaporates than was added, crystallization may not take place. To facilitate the removal of the pencils, the forms are rubbed with mineral oil before casting.

Information * Please?

GROCO 24

Regular Coconut Fatty Acids

Titre	22° — 25° C.
Color 5¼" Lovibond Red	1 — 12
Color 5¼" Lovibond Yellow	8 — 4
Color—Gardner 1933	2 —
Unsaponifiable	0.25% — 0.50%
Saponification Value	261 — 270
Acid Value	260 — 269
Iodine Value (WIJS)	6 — 12

A. GROSS & Company

MANUFACTURERS SINCE 1837

295 MADISON AVENUE • NEW YORK 17, N. Y.

Factory: Newark, N. J.

Before removing the blocks, or pencils, the molds are sometimes plunged into hot water for a short while so that the surface of the mass melts slightly.

A typical formula for making opaque hemostatic pencils is as follows:

Potassium alum	**90.0 parts**
Zinc oxide	**0.5 part**
Glycerine	**6.0 "**
Formalin	**1.0 "**
Borax	**1.0 "**
Ferric chloride	**1.0 "**

Another, simpler formula calls for the use of:

Aluminum sulfate	**5.0 parts**
Potassium alum	**235.0 "**
Borax	**10.0 "**
Diluted hydrochloric acid	**0.5 part**

Study of Chlorophyll Deodorants

In a detailed discussion of deodorant evaluation methods presented at the May 18 meeting of the Society of Cosmetic Chemists, J. A. Killian reported his findings with respect to the action of chlorophyll and its derivatives. Significant was his finding that the ingestion of 100 mg. of chlorophyllins caused no reduction in body odor. Indeed there was an actual increase in body odor in some instances. Even when the dosage was increased to 300 mg. three times per day, the ingestion of chlorophyll caused no decrease in body odor. Special axillary tests also showed no evidence of odor reduction. In contrast, bathing with plain white soap caused a definite decrease in odor. An "antiseptic" soap was somewhat more effective in this respect.

Thiovanic Acid Bulletin

A technical data bulletin on Thiovanic Acid, a brand of vacuum distilled thioglycolic acid has been published by Evans Chemetics, Inc. The acid is in the purest form available, with complete absence of solvents and residual solvent odors. The bulletin outlines the properties, specifications, typical reactions with salts, oxidizing agents, alcohols, aldehydes, ketones, organic halides, olefins, disulfides, carbon disulfide, sulfur chloride and benzene diazonium chloride. In all these reactions, the acid is extremely versatile, having two chemically active groups and low molecular weight to make a useful chemical building block.

There are a number of suggested uses for Thiovanic Acid in addition to the cosmetics industry where its use has been based exclusively on the property of the molecule to act as a reducing agent. Its esters show numerous possibilities, such as use as modifiers in polymerization and as flotation agents and antioxidants. Some 24 other suggested uses are mentioned in the bulletin, which will be sent by request to Evans Chemetics, Inc., 250 East 43rd Street, New York 7.

Preservatives for Creams and Lotions

Preservatives for cosmetic creams and lotions are concisely considered in the *Journal of the American Pharmaceutical Association* (Pract. Pharm. Ed. 12:270, 1951). Here it is pointed out that each cosmetic cream or lotion may present a specific problem and a preservative which is satisfactory in one instance may be quite unsatisfactory in another. Many preservatives have been recommended for the inhibition of the growth of microorganisms in cosmetic preparations. Among these are such preservatives as borax, 0.9, per cent; acetanilide, 0.3 per cent; cresol, 0.1 per cent; phenol, 0.13 per cent; salicylanilide, 0.025 per cent; thymol, 0.04 per cent; phenylmercuric nitrate, 0.01 to 0.05 per cent. However, the most commonly used and the most effective preservatives appear to be the esters of parahydroxybenzoic acid which are used in a ratio of 1 to 750 less, depending upon the ester used. The three most commonly employed esters are the ethyl-, propyl-, and butylparahydroxybenzoates.

Deodorants and Antiperspirants

Noting that the difference between a deodorant and an antiperspirant is not always sufficiently considered, H. Janowitz (*Alchimist* 4:281, 1950) states that deodorants are growing in popularity. In his opinion pastes and powders are the most suitable vehicles for the deodorant agents. Powder absorbs perspiration and makes it odorless. Zinc peroxide is very good in this respect; its use being illustrated in the following formula:

Zinc peroxide	**10 parts**
Calamine	**5 "**
Zinc stearate	**6 "**
Kaolin	**20 "**
Zinc peroxide	**1 part**
Talcum	**59 parts**

When about 10 per cent of alum is added to such a deodorant powder, a product results which acts both as deodorant and as an antiperspirant.

Deodorant pastes, says Janowitz, generally have a fatty base because the acids and preservatives are more soluble in such bases. He feels that better results are obtained with an "artificial petroleum jelly" made from:

Petroleum jelly	**50 parts**
Light white oil	**45 "**
Paraffin wax	**5 "**

Perfuming is important, because it may contribute to the deodorizing action. Cinnamon, clove oil, eucalyptol, eugenol, cumarin, vanillin, methyl salicylate and other oils, as well as thymol and menthol, are useful. A "very good" preparation of this sort is as follows:

Zinc superoxide	**10 parts**
Zinc oxide	**10 "**
Kaolin	**10 "**
Benzoic acid	**4 "**
Fatty base	**66 "**
Perfume	**Sufficient**

After dissolving the benzoic acid in the fat add the powders slowly. Do not heat over 50° C. Add the perfume and mill the mixture.

Another formula for a deodorant paste is given as follows:

Oxyquinoline benzoate	**5 parts**
Calamine	**10 "**
Zinc oxide	**20 "**
Talcum	**10 "**
Fatty base	**55 "**

If a liquid preparation is desired, a good, light astringent lotion may be made from:

Potassium alum	**3.0 per cent**
Glycerine	**5.0 " "**
Benzoic acid	**0.1 " "**
Boric acid	**4.0 " "**
Phenyl ethyl alcohol	**0.5 " "**
Distilled water to make	**100.0 " "**

If desired, 0.5 per cent of menthol may be added to obtain a more pronounced cooling action.

In considering the composition of the so-called double-action products, Janowitz remarks that a good formula would be about as follows:

Lanette Wax or 10 per cent sulphonated cetyl alcohol	**16 parts**
Glycerin	**7.0 "**
Titanium white	**3.0 "**
Aluminium sulphocarbolate	**5.0 "**
Water to make	**100.0 "**

Instead of titanium white, zinc peroxide may be used in order to obtain the double action of the oxygen and the aluminium sulphocarbolate.

Imported from France

The finest natural raw materials for your Perfumery, Soaps and Cosmetics . . .

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ADVANCING THERAPY

New Health Factor in Fats

Discovery of a new health factor, either a vitamin or a vitamin-like material that helps some known vitamin do its work, was announced by K. W. Keane and his associates. at the 119th meeting of the American Chemical Society. Their studies on female rats receiving a synthetic diet containing glyceryl trilaurate as fat source and supplemented with all known vitamins and methyl linoleate indicate that a hitherto unrecognized factor is necessary for survival of the young. A series of 67 litters were born from rats receiving this diet, and not one of the litters were weaned. On the same diet supplemented with 2.5 per cent wheat germ oil, a series of 26 litters were born, and 96 per cent of the litters were weaned and raised. Rats receiving the synthetic diet and being unable to raise young were able to raise the pups successfully when transferred to the diet supplemented with wheat germ oil. The addition of cholesterol or progesterone plus stilbestrol to the synthetic diet did not increase the viability of the young. The females were all apparently healthy and in good condition, and there was no indication of resorption during the gestation period. On the synthetic diet the pups died and frequently were eaten by the female within 4 days after they were born, although a few lived as long as 9 days. The pups appear to suckle normally, but gain very little weight. Further studies in progress will be reported.

Comparison of Estrogens

In their report in the *Lancet* (1:818, 1951) P. M. F. Bishop, N. A. Richards and U. L. M. Perry describe a method for comparing the potency of estrogens in man. It consists in giving the estrogen daily by mouth in fourteen-day courses to amenorrhoeic women and recording whether estrogen-withdrawal bleeding takes place.

The results obtained indicate that stilbestrol sulphate is half as potent as stilbestrol, estrone one-twentieth as potent, and equilin one-third as potent. "Toxicity" manifested as nausea was not encountered with these three estrogens in the range of doses administered.

Comparison of Anti-Arthritic Drugs

In a comparative study carried out by H. G. Brugsch and R. A. Manning (*New England J. Med.* 244:628, 1951) 20 patients suffering from rheumatoid arthritis and one patient with gout were treated with pregnenolone, 21-acetoxypregnenolone or ACTH. Fifteen received injections of pregnenolone and 6 received injections of 21-acetoxypregnenolone in various amounts over periods from seven to forty-two days. Nine of these patients were treated subsequently with a course of ACTH. Neither pregnenolone nor 21-acetoxypregnenolone could produce a sustained beneficial effect comparable to the effect obtained with ACTH.

Hyaluronidase Uses

Because the enzyme hyaluronidase is capable of enhancing the absorption of fluids from the tissues, J. Schwartzman (*New York State J. Med.* 51:215, 1951) used it to facilitate hypodermoclysis in over 200 cases. He now uses it routinely in all clyses. He states that once the hyaluronidase is injected, the same area can be used effectively for about three days; after that, its effect diminishes rapidly. Hyaluronidase has been helpful in clyses, in hastening the administration of drugs given subcutaneously, in treatment of sinus conditions with penicillin, in intramuscular pyelography and in local anesthesia. It is hindered in its action by salicylates. The advantages of the use of hyaluronidase are that no intricate set-up or experienced personnel is needed. It can be used at home, in the field or in an ambulance, if necessary. The flow can be adjusted to suit the occasion, and the administration can be discontinued without any concern about clots obstructing the needle. There is no danger of emboli. The sensitivity rate is very low, and toxicity is negligible. It is five to 14 times more effective than ordinary clysis, and it decreases the duration and intensity of pain. It is especially useful in cases in which intravenous administration is impractical, difficult or inadvisable because of the caliber, position or condition of the patient's veins.

PABA for Serum Sickness

The value of para-aminobenzoic acid (PABA) in the treatment of serum sickness is indicated by G. Ricci (*Acta Vitaminol.* 4:27, 1950 through *J.A.M.A.* 146: 67, 1951). He studied 39 infants and children with serum sickness following the administration of diphtheria antitoxin, either normal or purified, in treatment of pharyngeal, laryngeal or nasal diphtheria. The serum sickness occurred in seven to 10 days after administration of the serum in all cases but five. In these it occurred within the first three days. Thirty-four of the patients were treated with para-aminobenzoic acid, given either orally or intramuscularly. As a rule, the clinical symptoms of the disease abated immediately after start of the treatment, were controlled within the first day and showed no tendency to return after four days of sustained treatment. In the five patients with serum sickness who did not receive para-aminobenzoic acid, the symptoms were severer and of longer duration, requiring four to seven days for control.

Intravenous Alcohol in Surgery

Citing the role that alcohol in its various forms has played in medical treatment, M. Karp and J. K. Sokol (*J.A.M.A.* 146:21, 1951) state that for the past nine years we have been using intravenous injections of alcohol in the operative and post-operative management of the surgical patient. During this time 3,121 liters of alcohol in 5, 7.5 and 10 per cent concentrations has been given intravenously to 2,000 patients. It was found that five and 10 per cent alcohol solutions given intravenously increase the caloric intake and have special value in patients with inanition. Alcohol may be used intravenously in cardiac patients with relative safety because of its vasodilatory action and minimal effect on the blood pressure. It has a definite value as a sedative during regional anesthesia in combination with nitrous oxide and oxygen. It has been used with gratifying results to supplement local anesthesia for hip pinnings in the geriatric patient. With its use the need for postoperative sedation by narcotics was reduced 30 to 50 per cent in a

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comparative study of parallel series of patients undergoing similar surgical experiences.

Chloramphenicol Intravenously

In a paper in the new journal *Antibiotics and Chemotherapy* (1:63, 1951), W. W. Orr and his colleagues report that preliminary studies of the intravenous method of administration of chloramphenicol employing acetyl-dimethylamine as the solvent indicate that the drug may be given rapidly as a 1 per cent solution in a diluent, such as 5 per cent glucose in water, in therapeutic doses in children without any untoward reactions. A dose of 15 mg. per Kg. every 6 hours is recommended. Intravenous administration of the drug would be indicated in severe infections where the patient is semi-comatose or unable to take the medication by mouth. However, further studies on the toxicity of parenteral chloramphenicol are indicated before the preparation is employed on a widespread scale.

Chloramphenicol for Whooping Cough

In small children, especially infants, say H. C. A. Lassen and L. C. Grandjean (*Lancet* 1:763, 1951), pertussis is still a dangerous disease, with a relatively high mortality. Both chloramphenicol ("Chloromycetin") and "Aureomycin" have a pronounced bacteriostatic action on *Hemophilus pertussis* in vitro, but so far the clinical reports on their use in whooping-cough have been based on small numbers, and have often lacked proper bacteriological controls. In vitro, these antibiotics are about equally active, but clinically chloramphenicol seems to be the more effective of the two. In their investigations chloroamphenicol was given for three to five days to 100 patients with typical whooping-cough, most of whom were in the first two or three weeks of the disease. Repeated nasopharyngeal cultures were examined in every case. Of the 80 patients with positive cultures before treatment 73 became negative within nine days of chloramphenicol being started. The frequency of the paroxysms fell sharply, and the patient's general condition rapidly improved. Hence, these workers state that chloramphenicol seems to be the most effective remedy so far tried in whooping-cough, and it should be used in every case in infancy.

Of related interest are the observations made by A. Bogdan (*Lancet* 1:764, 1951). He reports that chloramphenicol, given early in the preparoxysmal stage, successfully modified the illness in 10 out of 13 children who had been in contact with known cases of whooping-cough. The protection given is immediate, in contrast with that provided by vaccines, which takes some weeks to develop. He feels that this use of chloramphenicol might be valuable in reducing the mortality and morbidity from whooping-cough and in the control of this infection.

Antibiotics for Treating Anthrax

The experience of H. Gold and W. P. Boger (*New England J. Med.* 244:391, 1951) indicates that the newer antibiotics are efficacious therapeutic agents for cutaneous manifestations of anthrax infection. In their work, eight cases of cutaneous anthrax were successfully treated with aureomycin, Chloromycetin and terramycin. The spread of local edema and erythema was promptly checked; regional adenopathy persisted for a few days, and smears and cultures from the lesions were negative for anthrax within two to three days after therapy was instituted. Except for nausea and vomiting produced by aureomycin, no untoward reactions were encountered. All patients but one were ambulatory and were treated at home.

Combined Therapy for Syphilis

That there may be an advantage in combining therapeutic agents in syphilis treatment is indicated by L. Chargin, N. Sobel and T. Rosenthal (*Arch. Dermat. & Syph.* 63:104, 1951). A treatment schedule consisting in the administration of 6,000,000 units of penicillin, 10 to 20 injections of oxophenarsine hydrochloride and 10 injections of bismuth subsalicylate (combined schedule) was employed in 470 cases of early syphilis. Comparison of the results obtained with the combined schedule of therapy with those secured with the 16-day schedule in which penicillin alone is employed reveals that the satisfactory outcome in the two is about the same. This statement also holds true with respect to the cases that remained seropositive in the two schedules. However, a remarkable difference is noted in the relapse and reinfection rate, which with the 16-day schedule is 3.9 per cent as compared with 0.85 per cent with combined therapy. If this lower rate with combined therapy is confirmed by further study it will weigh strongly in favor of the effectiveness of combined therapy, at least from the standpoint of relapses.

Potentiating Penicillin

According to Grace and Bryson (*Surg, Gynec. & Obst.* 91:333, 1950) a DETERGENT added to penicillin potentiates its action on staphylococci *in vitro* and may help in promoting contact between the antibiotic and isolated bacteria in purulent or avascular areas.

They have used solutions of penicillin with the addition of an anionic detergent agent in the topical treatment of chronic osteomyelitis in 45 patients who had suffered from the disease for periods of from two weeks to 51 years. Surgical treatment (kept to a minimum) and parenteral administration of penicillin was supplemented by instilling a penicillin-detergent solution into the infective focus, followed by primary closure of the wound. A typical solution contained 10,000 units of penicillin per cc. of 1 in 1000 aqueous Tergitol. In 69 per cent of the patients treated, the disease was completely arrested and did not reappear during periods of observation ranging from one to nearly five years.

Methionine in Liver Disease

According to a report on the Foreign Letters section of the *Journal of the American Medical Association* (146:226, 1951), Professor Campanacci, of the University of Parma has discussed the use of methionine in liver disease. He stated that among the various sulfur-bearing amino acids, methionine has the advantage of supplying methyl and sulfhydryl (SH) groups. Although methionine represents the lipotropic substance of choice, other substances should not be neglected in the treatment of liver diseases, including other sulfur-bearing products as well as the pellagra-preventing factor (nicotinic acid, dextrose, adrenal hormones and thiosulfates. In fact, while methionine does not present any protective action against acute alloxan poisoning, cystine protects against chemical diabetes, sodium thiosulfate has certainly an antiallergic action not possessed by methionine, and other products are superior to methionine as detoxicating agents in poisoning from heavy metals.

Investigations suggest that sodium thiosulfate alone is capable of protecting the liver against nutritional steatosis, better than methionine itself, and with an intensity of action equaling that of inositol. The methionine dosage must be sufficiently high (from 2 to 3 Gm. in 24 hours). Parenteral or rectal administration of the drug is preferred, since its reabsorption may be insufficient in the presence of a liver disease.

PERFUMER'S SHELF

Some Oils of Salvia

F. Rovesti (*Revista Ital. di Essenze* 32:428, 1950 through *Perf. & Essent. Oil Rec.* 41:432, 1950) has made an examination of various species of Salvia (sage) that more or less closely resemble *Salvia sclarea*. Characteristics of the oils from three such species are given as follows:

	S.turkestanica	*S.sclareoides*	*S.reuteriana*
Specific gravity	0.9215	0.9148	0.9651
Index of refraction	1.4785	1.4915	1.4681
Specific rotation	—18.3°	—51.3°	—4.2°
Ind. sapon.	9.33	3.73	7.47
Insol. ethers	177.33	54.13	39.20
Ind. sapon. (acetylated)	196	98.93	128.8
Ethers as linalyl acetate	62.06%	18.94%	13.72%
Alcohols as total linalol	63.19%	29.90%	39.20%
Alcohols as free linalol	14.43%	14.51%	28.42%
Sol. in alcohol at 15°	0.8	2.3	3.4

It is considered that the first of these could be used in place of *Salvia sclarea*, though possibly somewhat less fine or delicate, in the usual formulations. Its floral habit and cultural requirements are about the same. The fresh flowers yield by steam distillation, about 0.178 per cent oil; and this probably could be increased. The odor is strong, almost pungent, and is somewhat coarser (sgarbato) or less delicate than that of *Salvia sclarea* but equally tenacious and semi-glutinous, *Salvia sclareoides* is more like *sclarea*, as the name indicates. The fresh flowers yielded 0.31 per cent of oil. *Salvia reutteriana* yielded 0.058 per cent oil, also similar to the others but with a suggestion of camphor.

Oxidation of Isoborneol

Because of its relation to camphor synthesis, the oxidation of isoborneol has received considerable study. To this growing literature may be added the report of W. A. Mosher and E. O. Langerak (*J. Am. Chem. Soc.* 73:1302, 1951) on the oxidation of isoborneol with chromic acid. They found that isoborneol on oxidation with chromic anhydride in aqueous acetic acid yields 96 per cent camphor, 2 per cent α-campholenic acid and 2 per cent 1,2,2-trimethylcyclopentanol-3-acetic acid. These two acids have not been previously isolated from isoborneol oxidation and the latter is a new terpene-derived hydroxy-acid. These products are accounted for through the deficient oxygen intermediate. The results with isoborneol are significant because the alcohol and acid functions are obtained in the same molecule as a result of the splitting reaction.

Bergomot Oils

An analysis of 20 samples of the 1949-50 crops of bergamot oils by G. Migliardi (*Boll. uffic. staz. sper. ind. essenze e derio. agrumi Reggio Calabria* 19:89, 1950, through *Chem. Abstr.* 44: 10264, 1950) showed the following range of properties:

Specific gravity	**0. 8760—0.8840**
Specific rotation	**8—24°**
Esters (as lanalyl acetate)	**30.60 —39.75 per cent**
Free alcohols (as linalool)	**22.16 —34.16 " "**
Residue at 100°C.	**4.08 — 6.35 " "**

It was noted that both the rotary power and the ester content were higher than in the preceding year.

Extractives from Ponderosa Pine Bark

Because of the large supply of now largely unused ponderosa pine bark potentially available (approximately 400,000 tons annually in the Pacific Northwest alone), a study of its chemical constituents was made, at the request of the Western Pine Association, to determine the possibilities for utilizing this material. The results of experimental studies by E. F. Kurth and J. K. Hubbard (*Ind. & Eng. Chem.* 43:896, 1951) indicate that ponderosa pine bark contains about 25 per cent extractives. Tannin to the extent of 5.6 to 11.4 per cent and wax equivalent to about 5 per cent of the dry weight of the bark were obtained. The wax is composed of fatty alcohols, fatty acids, and resin acids. A new flavonoid (3, 3', 4',5,8-pentahydroxyflavone) was isolated.

The hexane extract was a yellow wax melting at 56° to 58° C. It was dissolved in ether and separated into the free acid fraction and the neutral fraction by extraction with 5 per cent potassium carbonate solution. The neutral fraction was steam-distilled to recover any volatile oil present. A 0.2 per cent yield of a clear liquid from the hexane-soluble was was obtained. It had a boiling range of 195° to 208° C. and an Abbe-type refractometer refractive index of $n_D^{25} = 1.4780$, with a dispersion of 39.4*Z* scale divisions. The density of the oil was 0.844 gram per ml. at 25° C. These properties are similar to the volatile oil obtained from ponderosa pine wood, which was found to consist of α- and β-pinene, dipentene, borneol, and bornyl acetate.

Vanillic Acid Esters

As part of their studies of vanillin and its derived compounds, I. A. Pearl and D. L. Beyer have devised a new synthesis of vanillic acid esters. In a report given at the 119th meeting of the American Chemical Society, they state that the failure of direct esterification procedures to yield long-chain alcohol esters of vanillic acid led to the investigation of the preparation of these compounds by the normal hydrolysis of alkyl vanillimidate hydrochlorides which, in turn, are prepared by treating vanillonitrile with the long-chain alcohol and hydrogen chloride.

The long-chain alkyl vanillimidate hydrochlorides were prepared easily in good yields by reacting vanillonitrile in anhydrous ether with straight-chain alcohols containing even-numbered carbon atoms from 8 to 18 and with gaseous hydrogen chloride. These imino ether salts were hydrolyzed by boiling with water alone to give good yields of the normal hydrolysis products, the long-chain alkyl vanillates and ammonium chloride. Small amounts of the abnormal hydrolysis products, vanillonitrile and long-chain alcohol, also were obtained in each case. The long-chain alkyl vanillates were obtained as colorless oils which solidified to low melting solids. Their ultraviolet absorbing spectra are identical with these of the lower alkyl esters except for actual extinction values. Except for the specific activity of the octyl and decyl vanillates toward the spore-forming *Bacillus mycoides*, the long-chain alkyl vanillates appear to be very poor antimicrobic agents.

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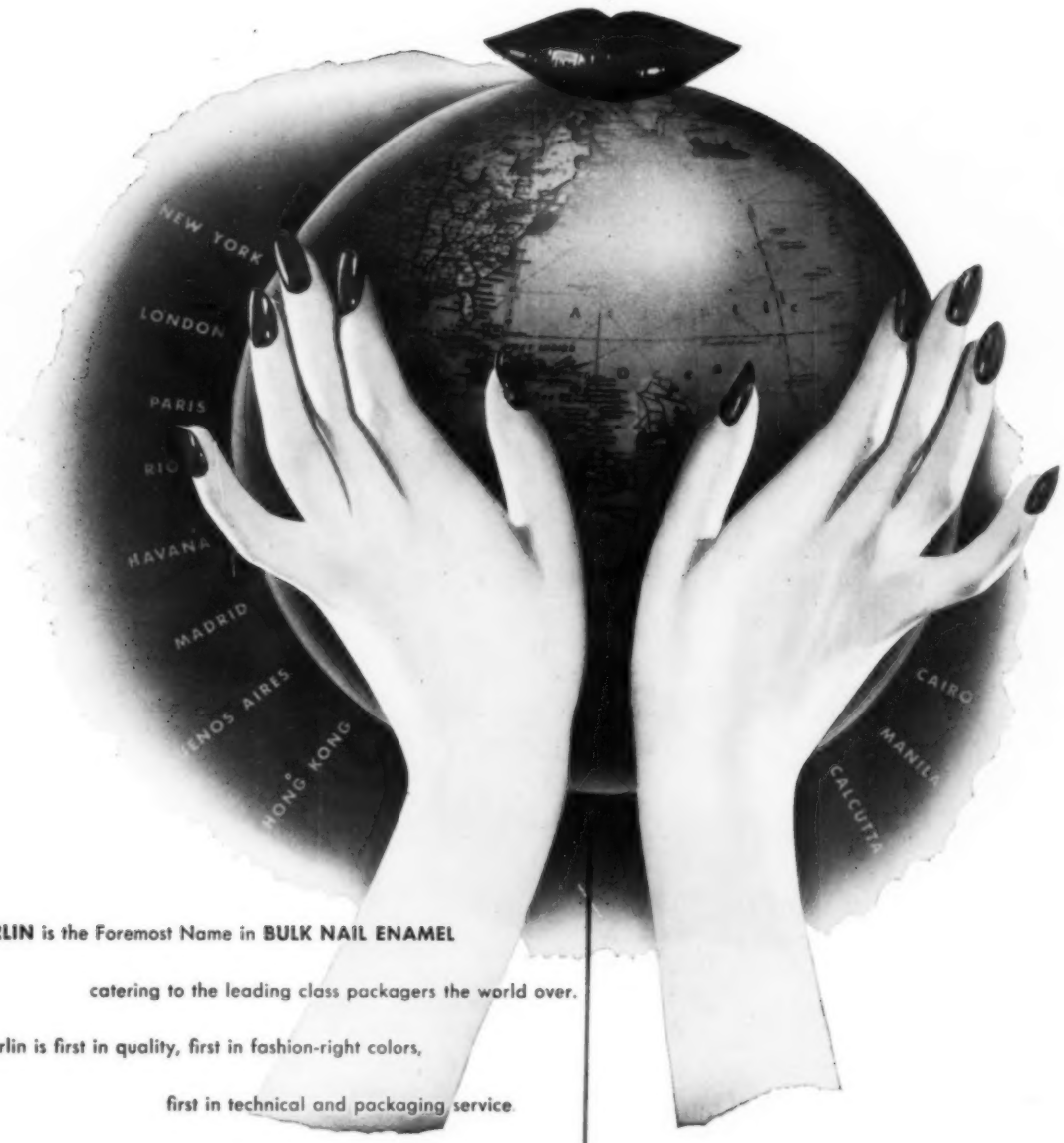

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Mandarin Petitgrain Oil

In a report of the 1949 crop near Palermo, Italy, M. Zingales (*Boll. uffic. staz. sper. ind. essenze l deriv. agriemi Reggio Calabria* 19:81, 1950 through *Chem. Abstr.* 44:10266, 1950) reported that the average yields of mandarin petitgrain oil ranged between 357 and 442 Gm. per 100 kg. of leaves and little twigs. The maximum yield was obtained in April. The physical-chemical data of the oil was as follows:

Specific gravity	**0.9920**
Specific rotation	**7.04°**
Ester number	**207.9**

The average methyl methanthanilate content was 61.35 per cent.

Carbinols and Carbinol Esters

It is noted in *Soap, Perfumery & Cosmetics* (24:161, 1951) that a wide range of carbinols and carbinol esters, 25 in all, has recently been received in England. The characteristics of each of these items is discussed briefly as follows:

1. Phenyl methyl carbinol has a mild but somewhat fruity odor of the gardenia/lilac type. Useful in such compositions and in hawthorn, mimosa, etc.

2. Phenyl dimethyl carbinol has a somewhat flat odor of rose type, with a vaguely woody background. Indispensable in some types of rose odor. Blends well with cedarwood and others.

3. Benzyl dimethyl carbinol has a powerful cresylic odor, but with a marked and diffusive floral character. Goes well in muguet particularly; also in jasmin, hyacinth and narcissus. Blends well into many floral compositions and also modern aldehydic perfumes.

4. Benzyl methyl ethyl carbinol has a milder note, suggesting oak moss and leather.

5. Benzyl isopropyl carbinol is one of the most freshly floral of the carbinols. Blends well into jasmin, gardenia, lilac, honeysuckle, mignonette. Adds a certain greenness to rose and other floral bases. Tones well in many modern perfumes.

6. Benzyl isobutyl carbinol is honeyed but with a powerful emphasis on the butyl osmophore.

7. Benzyl phenyl carbinol is a crystalline fixative described as of orris character. Should prove useful in violet blends, and the like.

8. Phenylethyl dimethyl carbinol is a very smooth though indefinite floral odor. Sweet and rather green. It goes well into rose and jasmin blends. Its versatility, however, is remarkable, fitting it for use in the widest possible range of compositions.

9. Phenylethyl methyl ethyl carbinol is similar in type to 8, but softer and smoother.

10. Phenyl methyl carbinyl formate and acetate (No. 11) are employed with discretion in gardenia perfumes. Because of their intense and very characteristic odors they must be used with circumspection.

12. Phenyl methyl carbinyl propionate is useful, in traces, in jasmin and other floral bouquets.

13. Phenyl methyl carbinyl butyrate has a fruity odor of the jasmin type. The iso-butyrate (No. 14) is less fruity and more versatile, blending well into many types of bouquet.

15. Phenyl methyl carbinyl caproate has a faint but smooth and persistent odor, suggesting its possibilities in lilac and certain lily types.

16. Phenyl methyl carbinyl caprylate is also faint, at first reminiscent of the odor of commercial lauryl alcohol. It has been described as being similar to the geranyl esters, but is much milder.

17. Benzyl dimethyl carbinyl acetate has a very interesting menthyl acetate/prune odor. May be capable of giving interesting effects in a wide variety of floral compounds. Blends extremely well with lavender.

18. Benzyl methyl ethyl carbinyl acetate has a rather leathery odor.

19. Benzyl isopropyl carbinyl acetate has a balsamic fruity odor. It could be useful in lipstick compounds.

20. Benzyl isobutyl carbinyl acetate has a characteristically butyric note.

21. Benzyl phenyl carbinyl acetate has a clean fruity odor. Its smoothness would appear to favor its experimental use in new perfume creations.

22. Phenylated dimethyl carbinyl acetate has a fresh rosaceous type of odor. Very useful in the blending of rose compounds.

23. Phenylated methyl ethyl carbinyl acetate is narcissus-like in character.

24. Phenylated methyl ethyl carbinyl propionate is sweetly rose-like, but with a background reminiscent of mushrooms. Sweeter and milder than the acetate, it would blend well into gardenia, lilac and other floral compounds.

25. Phenylated dimethyl carbinyl isobutyrate has a characteristic locust bean odor. Its high sweet tonality would probably favor its use in honeysuckle, etc. It might be blended experimentally with linalyl acetate.

The resume closes with the observation that the carbinols are notable as a group for the fact that they are very resistant to oxidation and do not discolor on exposure. Their odors are generally full and persistent. They have high solubility in alcohol and are valuable in the compounding of perfumes for use in cosmetics and soaps. The more intensely odorous carbinol esters need to be used with care and restraint.

Polarography of Carvone

The polarography of carvone and its determination in drugs and essential oils has been discussed by B. Bitter and J. Manis (*Chem. Listy* 43:206, through *Chem. Abstr.* 44:9625, 1950). In their procedure, carvone was reduced polarographically in an aqueous ethyl alcohol solution containing 0.1 Normal lithium chloride as an electrolyte. The carvone contents of essential oils and the drugs, Semen Carvi and Semen Anethe was estimated by means of calibrating curves made with pure carvone. In testing essential oils, the oil was dissolved in 10 times its volume of ethyl alcohol, diluted with 100 times its volume of distilled water, and mixed with an equal volume of 0.2 *N* lithium chloride. It was polarographed under nitrogen. In the case of drugs, 2.5 Gm. of the drug was extracted for six hours with ethyl alcohol, the alcohol was distilled, the residue dissolved in 25cc. of alcohol, mixed with 25cc. of 0.2 lithium chloride and polarographed under nitrogen.

Oil of Zanthoxylum Rhesta

A study of two oils obtained from *Zanthoxylum rhesta*, made by Y. R. Naves and P. Ardizio (*Bull. soc. chim. France*, 1950 pp. 673-8) showed the following properties for the oils:

	I	II
Specific gravity	**0.8697**	**0.8512**
Specific rotation	**−34.65°**	**−37.88°**
Index of refraction	**1.4718**	**1.4692**
Acid value	**4.2**	**0.2**
Ester value	**167.0**	**50.9**
Combined alcohols	**3.8**	**1.7**
Free alcohols	**46.8**	**12.3**
Carbonyl value	**12.2**	**15.4**

The following components were identified: *l*-sabinene, α-terpinene, phloroacetophenone dimethyl ether, β-phellandrene, 4-terpinenol, 1,4-cineole, *l*-1-isopropyl-2-cyclohexen-4-one (*l*-cryptone), cumaldehyde, and some fatty aldehydes (notably *n*-decanal).

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PATENT THOUGHTS AND TRENDS

by Thomas Cifelli, Jr. *

Patent Attorney

Basic "Cold Wave" Invention Held Patentable

If you don't succeed at first try, try again seems to be applicable these days to obtaining patents on basic inventions. It took Drs. Kunz and Gump well over 10 years to win a patent on their germicidal soap invention, as noted in the August 1950 issue of This Journal. History is repeating itself in short order, for it now appears that Dr. Everett G. McDonough will obtain a patent on a basic invention in the home permanent waving field, this too after battling through the Patent Office and having to go to a court.

Broadly speaking, McDonough's invention covers compositions and methods for permanent waving and especially cold waving involving the use of 1-15 per cent aqueous solutions of mercaptans at a pH of 7 to 9.5, using alkaline materials having a dissociation constant less than 5×10^{-3} for adjusting the pH.

It can be seen that the agents utilized by McDonough in connection with his permanent waving invention are similar to those involved in the depilatory patent, U. S. 2,352,524, which has been sustained by the Federal Courts.

An idea of the importance of the permanent waving invention can be realized when it is recalled that practically all of the commercial hair waving preparations in the home field now on the market involve the use of mercaptans in accordance with the McDonough invention.

Permanent Waving Methods Prior to McDonough's

The practice had been to use as waving agents alkaline materials such as borax, various carbonates and phosphates of alkaline materials, ammonia and ammonium salts, such as the carbonate, which for setting usually required the application of substantially steaming heat. Soluble sulphites of alkalies and ammonia had also been used for the waving agent, as well as sulfides.

*Gaylor, Cifelli & Jurick. Newark, N. J.

It is said that all of these previously-used waving agents proved unsatisfactory for one reason or another. They either have to be used in such relatively high concentrations (as in the case of the sulfites) as to be injurious to the hair, or, if lower concentrations were used, the time during which the hair had to be left in contact with the agents in order to obtain satisfactory results was unduly long. Then again, as in the case of the sulfides, e.g. ammonium hydrogen sulfide, the agents had an objectionable odor, due to the generation and liberation of free hydrogen sulfide, which under some conditions was injurious. Furthermore, the sulfides possess the further well known disadvantage of tending to tarnish jewelry and silverware, which is an important consideration in the home permanent waving field.

Another disadvantage of the sulfides as hair waving agents is that the hair tends to retain the sulfide in spite of repeated rinsings, thereby giving a bad odor to the hair, particularly on each re-wetting. Of even more importance is said to be the fact that the retention by the hair of the sulfide affords a continuous "relaxing" effect on the permanent wave with the result that the wave becomes less tight with each re-wetting.

McDonough's Invention

McDonough teaches that permanent waving and especially cold waving may be improved by employing mercaptans having the general formula R-SH, where "R" is an organic group containing a carbon atom attached to the sulfur atom. McDonough further asserts that the odors of the waving solutions are more acceptable and the effectiveness and efficiency of the waving action are best realized with substituted mercaptans where the molecule contains other groups. The substituted groups may be polar (ionizing), and such polar groups may be either acidic or alkaline or mixed; or the groups may be non-polar (non-ionizing). The application gives three specific examples dealing with mercapto-acetic acid (thioglycollic acid), glyceryl monomercaptan, and mercaptoethylamine, illustrating the three general types of substituted mercaptans.

Examples of compounds and groups of compounds belonging under the general heading of polar acidic substituted mercaptans are mercaptans containing sulphonic groups, as, for example, mercapto-ethyl sulphonic. Other acidic groups are nitro, chloro, or other halogenated groups, sulphonic, sulphate.

Examples of polar alkaline substituted mercaptans are: mercaptans containing amino groups, which may be primary, as, for example, beta-amino ethyl mercaptan, or, secondary, as, for example, beta-mercapto-ethylmethyl amine, or tertiary, as, for example, beta-mercapto-ethyl dimethyl amine. Examples of mercaptans containing non-polar groups are beta-mercapto-ethyl alcohol, mercapto acetaldehyde, mercapto-dimethyl ketone, mercapto ethyl acetate, and beta-mercapto-di-ethyl ether.

The concentrations of the mercaptans should be less than 15 per cent and may be as low as 1 per cent for certain purposes, while an effective intermediate range of concentration is from about 3 per cent to about 8.3 per cent. The efficiency or speed of the waving action increases with the concentration of mercaptan up to about 15 per cent and the speed of waving can be controlled very precisely by varying the percentage concentration of the mercaptan in the solution to accomodate the use to different systems of hot and cold waving and to different types of hair.

McDonough teaches that the mercaptan waving soutions are especially effective in alkaline solution in the pH range from pH 7.0 up to but not including pH 10.0, but that the use of pH values higher than 9.5 is not practical or desirable because the time available

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within which a permanent wave can be imparted to the hair before hair damage or destruction occurs is so short as to render the use of such pH values impracticable and dangerous. The preferred or optimum pH is taught as being about pH9.2, and the most efficient pH range is from about 9.2 to about 9.5. These pH values are particularly critical for cold waving and the speed of the waving action increases as the pH values increase. Control of the speed of waving may be effected by variations in pH, by variations in mercaptan concentrations, or by variations of both of these factors.

McDonough has found that while all alkaline materials may be used for adjusting pH values, certain bases are preferable and more effective with less hair destructive effect. Particularly in the cold waving method, the preferred bases are those having a dissociation constant less than 5×10^{-3}, and preferably about 10^{-5}. Among the preferred bases the volatile ones are epescially preferred, ammonia being the best.

Prior Art

A great amount of prior art had to be overcome by McDonough before he satisfied the Court that he had made a patentable invention. A list of the prior art follows:

Pye U. S. Patent 2,183,894 1939
Missbach U. S. Patent 2,043,257 1936
Speakman U. S. Patent 2,201,929 1940
Journal of the Society of Dyers & Colorists—Part IV—June 1937—pages 236-242
Journal of the Society of Dyers & Colorists —Part I—1936—pages 335-346
Industrial Engineering Chemistry, Analytical Edition—Vol. 6—No. 1 of Jan. 15, 1934—pages 46 and 47
Willat U. S. Patent 2,180,380 1939
Speakman British Pat. 453,700 1936
Speakman British Pat. 453,701 1936
Journal of the American Medical Association, Vol. 116, No. 14, April 5, 1941, pp. 1515-1517
Journal of the Society of Dyers & Colorists —Part III—Nov. 1936—pages 423-429
Maeder British Pat. 435,213 1935
Evans et. al. U. S. Patent 2,352,524 1944
Speakman U. S. Patent 2,261,094 1941
Goddard and Michaelis, "A study on Keratin," Journal of Biological Chemistry, Vol. 106 (1934) pp. 605-614
Pillemer et. al. "The Specificity of Keratins," Journal of Expermental Medicine, 1939, pp. 191-197.
Rheinboldt, "Uber Thioglycerine," Berichte, Vol. 70B 1937, pp. 675-680. (Page 677 especially pertinent)
Merck Index, Fifth Edition, 1940, pp. 185, entry "cysteine." Goddard and Michaelis, "Derivatives of Keratin," Journal of Biological Chemistry, Vol. 112 (1935-1936), pp. 361-371.
Turley and Windus, "The Unhairing Problem," Stiasny-Festshrift, 1937, pp. 396-406 (page 400 especially pertinent)
Windus and Turley, "The Unhairing Problem," Journal of the American Leather Chemists' Association. Vol. 33 (1938) pp. 246-253
Speakman "The Chemistry of Wool and Related Fibres," Journal of the Textile Institute, Transactions, July 1941, (page T84 especially pertinent).
Transcript of Record of patent appeal No. 5,241, U. S. C. C. P. A., on application of Samuel Grant, Ser. No. 372,945, filed Jan. 2, 1941 and abandoned January 8, 1947.

Court's Findings

The Court found that none of the prior art in any way disclosed or taught compositions or methods for permanent waving comprising mercaptans in alkaline solution adjusted to the pH range from 7 to about 9.5 with volatile bases or bases having a dissociation constant less than 5×10^{-3} as specified by McDonough's claims, nor did any of the prior art teach the advantages to be gained by using such compositions or methods.

The closest prior art were the patents to Pye and Speakman, and the Leavell & Ellis article. While Pye relates to the cold permanent waving of hair the Court found that the only compounds effective for the purpose were those wherein sulphur has a negative valence of two, categorically excluding the mercaptans of McDonough. The nearest reference in the Speakman patent deals with cysteine hydrochloride, which is a mercaptan. However, Speakman taught that this material had to be used at a pH of at least 10 and preferably at pH of 11 to be effective.

The Court further found that the teachings of the Pye and Speakman patents were on the whole incompatible. Whereas Pye stated that at pH 11 here destruction begins, Speakman taught that pH 11 is preferred.

The Leavell & Ellis article described a colorimetric method for the determination of small traces of iron in blood and milk by the use of a large excess of thioglycolic acid in an ammoniacal solution. This reagent solution was described as: "The mercaptoacetic acid reagent is prepared by the addition of 4 cc. of mercaptoacetic acid to a solution of 8 cc. of concentrated ammonium hydroxide in 50 cc. of water."

The Court found that this description was inadequate to specify a solution having precise composition and a definite inherent pH value. The terms "mercaptoacetic acid" and "concentrated ammonium hydroxide" were found to be subject to a variety of interpretations.

Finally, the Court found that not only did McDonough's invention involve novelty, utility, commercial success, meet imitation by those skilled in the art, satisfy a practical need long before recognized but unfulfilled, but that it also was the result of inventive thought and was not a case involving mere routine skill.

General Considerations

The McDonough patent application was prosecuted in the names of Sales Affiliates, Inc., and The Procter & Gamble Company before the District Court of the United States for the District of Columbia. While P & G is technically the assignee of McDonough's application, it is clear from the record that Sales Affiliates as the owner of certain contingent reversionary interests has it within it power to regain title. As may be surmised from the basic nature of McDonough's invention there already exists a number of licenses of record.

Stabilized Polythionates as Medicinal Cosmetics

U. S. patent 2,551,627 was granted on a Norwegian invention that polythionates and polythionic acids both in organic and inorganic solutions can be employed as cosmetics, for skin treatment and as prophylactic and curative agents in various diseases. The trick here was to prevent the decomposition of the polythionates. This is done according to the patent by adding negative catalysts capable of regulating the redox potential, such as oxygen-emitting or electron-absorbing compounds. The negative catalysts consist of cupric and ferric ions added as a salt in small amounts.

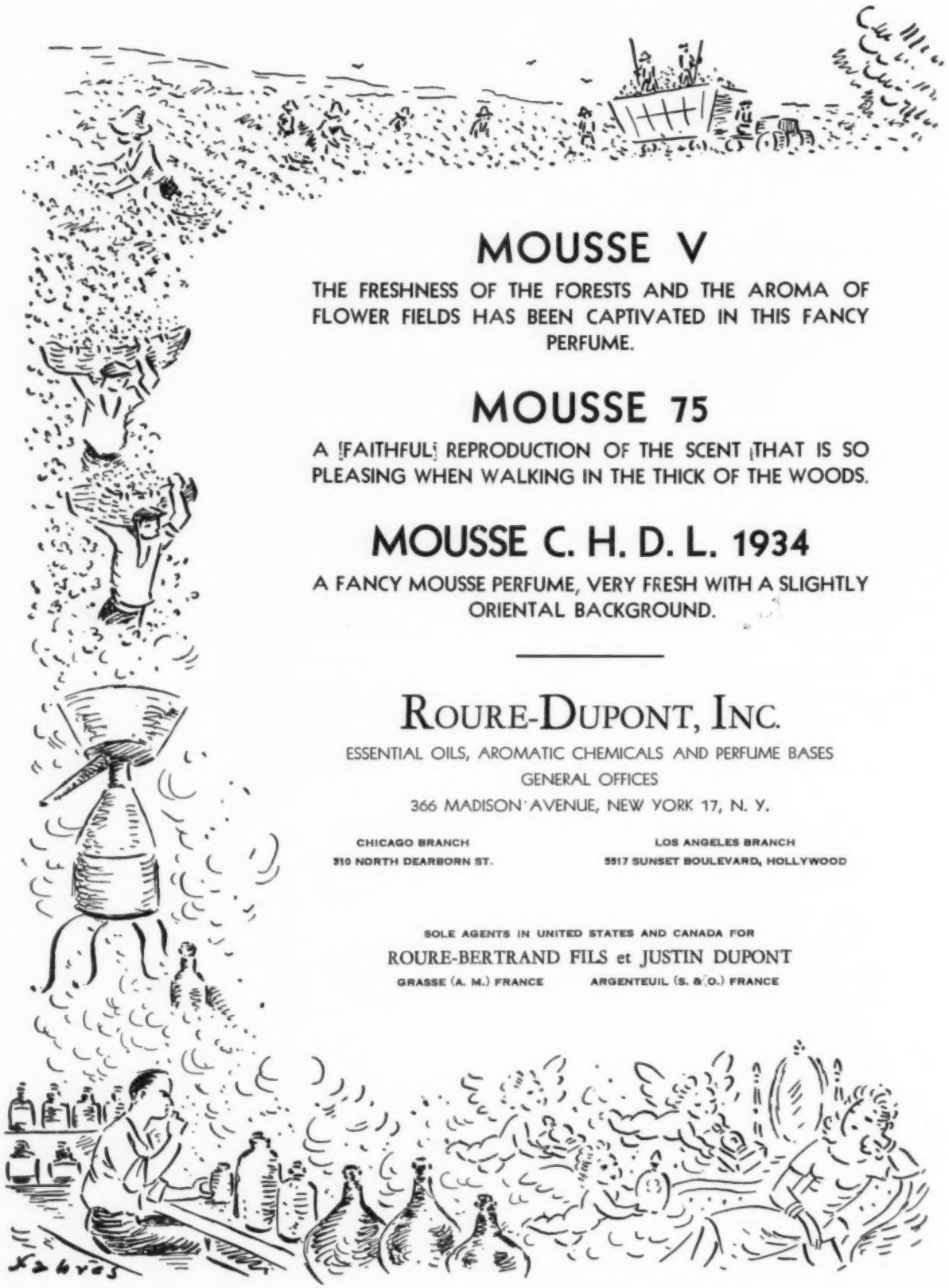
New Adrenolytics

The National Drug Company is to be added to the list of companies which have recently obtained patents in the new field of adrenolytics. Other companies active in this field include Givaudan, Smith, Kline & French and Parke, Davis.

The National Drug patent, U. S. 2,553,495, deals with N-(3-benzothenyl)-N-ethyl-beta-chloroethylamine hydrochloride. Adrenolytics reverse the effect of adrenalin or epinephrine on the human body.

According to the patent actual clinical tests show that the National Drug compounds when injected intramuscularly as a 1 per cent water solution in an amount of 5 milligrams per kilogram of body weight show in all cases a complete reversal of the pressor effect (increase in blood pressure) resulting from the prior administration of 10 micrograms of epinephrine.

(Continued on page 107)



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MOUSSE C. H. D. L. 1934

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YOUR TRADE-MARK RECORD

by John H. Graham
International Patent and Trade-Mark Consultant

Are You Ready to Teleview Your Goods!

The Chinese are usually credited with the authorship of the proverb of "one picture being worth a thousand words". Certainly, antiquity has in its lap many proofs of this axiom. The Egyptians employed picture writing to tell posterity of their present events. The first trade-marks, as such, were fanciful figures jealously guarded by their owners to prevent infringement of their rights. The Guilds used marks such as lions, anchors and other pictorial subjects to show the goods had the stamp of approval of the craftsmen.

All of these originators of the picture form realized that even a primitive mind emotionally coupled something he could see and recognize with a reaction or stimulus. Thus, the lion meant bravery, the spear meant war, the anchor meant the sea and the sun meant life.

By constant repetition, it was not too hard to have the lion, the spear, the anchor and the sun identify goods supplied by some merchant, by mental association. This was particularly applicable to the situation where the merchant took advantage of his form of trade, as by a supplier of sea-going goods using an anchor as his mark. From this formula, the modern trend to the use of marks suggestive of the goods as to character, desirability, etc. naturally follows.

As the world progressed from these earlier times, complications set in. The written word began to take over and the picture phase settled back to be a help-mate only for the verbal text.

At the turn of the century, novels published would be "lavishly illustrated" by some great artist who would do half a dozen "spots" of incidents from the story to enhance the text. Then came the denuded versions without illustrations at all. Only an eye-getting jacket was left which often bore little, if any, resemblance to the plot or its locale.

This long trend has been closely followed in the evolution of trade-marks. From the earliest days of simple pictorial forms used to identify goods as those of an originator we at last reached the peak of pictorial obscurity in the Gay 90's. In those years, the advertising copy, now so amusing to us, was dripping over with the written word. Out of this era came the long and complex trade-marks like "Dr. Carter's Little Liver Pills"; "Aunt Nancy's Green Salve"; "Hair Revivum"; "Pear's Transparent Soap Tablet"; and so on. Slowly, the old marks have been streamlined to more modern dress, the verbiage on label and in advertising copy has been eliminated so that today the marks of antiquity have been a face-lifting and only show their age to the initiated. But what of the *tomorrow*. No man can sell his goods only for now—the future must be his security.

Television has already planted its antenna firmly in our lives. In the last two or three years we have seen great changes. Our future living is sure to be tied up closely with televiewing. Yet few seem to see what they must do to their advertising picture and the most vital component of that picture which is the trade-mark. The trade-mark is the backbone of advertising. You can show a thousand pictures and speak a million words about a product but if the buyer can't name it at the store, there's no sale. No longer is there "only one of a kind" in industry—and nowhere is that more obvious than in the toilet goods, cosmetic, perfume and drug industries which are recognized as among the highest of highly competitive fields.

Now is the time, not later, to consider how your goods will look on a television screen. It won't do to wait until you find out the weakness and obscurity of your package or your mark. True, at the i m m e d i a t e t i m e few programs are in any way connected with your goods but it is known that in the Fall of this year several programs concerned with cosmetics are going on the video broadcast which may feature goods of many different manufacturers.

There is, too, always the "accidental" viewing to be considered. The other night I was viewing a drama staged in South Africa. One man pours another a drink. In that brief flash I recognized "Johnnie Walker" Scotch by its square bottle and its label. I have seen several Italian scenes identified by the straw-covered round bellied wine bottles. Are your products easily and quickly recognized? And as easy as that?

The following Trade-Marks were recently published in the Official Gazette of the United States Patent Office.

Chinese Lily—51—CE—579,395
Richard Hudnut, N. Y., N. Y.
Ser. May 24, 1949 D. U. May 12, 1949

China Rose—51—CE—587,243
Richard Hudnut, N. Y., N. Y.
Ser. Nov. 3, 1949 D. U. Sept. 26, 1949

Christmas Card—51—B—559,891
Lever Bros., Co., N. Y., N. Y.
Ser. June 22, 1948 D. U. Feb. 25, 1948

Coloral—5—BCES—597,297
Eugene Schueller, Paris, France
Ser. May 11, 1950 D. U. Jan. 31, 1950

Coloreze Creme—51—H—597,824
"42" Products Ltd., Los Angeles, Cal.
Ser. May 20, 1950 D. U. Apr. 28, 1950

Curl Velvet—51—589,241
Artistic Beauty Products Co., Los Angeles, Cal.
Ser. Dec. 13, 1949 D. U. Oct. 12, 1949

Dejean—52—A—598,208
Sayman Products Co., St. Louis, Mo.
Ser. May 26, 1950 D. U. Feb. 1, 1949

A Company Library In The Cosmetic Plant

(*Continued from page 37*)

of textbook nature is suggested and made available.

In a corporation which maintains a research and development department, a technical library is as necessary as a microscope, balance, or any other instrument. With the steady increase in technical research and development has come the publication of an ever-increasing amount of technical literature describing new developments and recording operational experiences. The technical worker in industry is faced with a large number of trade and scientific journals, and it is almost impossible for him to keep closely in touch with world publications on his specialty. The library staff can save the individual from the impossible task of covering the whole range of published matter by selecting and offering to him everything that bears on his work. The research man can thus concentrate on his job free from this laborious bibliographic work.

Various schemes are used to digest this vast amount of published information and bring it to the technical man in such a form that he can decide what he should take time to read in full, and what he can afford to pass over. When the laboratory staff is small, technical journals are routed or sent directly to the individual who will be most interested in the material. When the laboratory staff is large, the library can solve the problem by issuing a periodical mimeographed bulletin of abstracts based on the journals received in the library. These abstracts of the current literature should be specific and timely, and the bulletin can be arranged in such a way that the research man who receives it can cut out references and file them in a suitable card file. Moreover, a card file of all items included in the bulletin should be maintained in the library and serve as a master bibliography of company interests. One library handles the problem of abstracts by purchasing several copies of *Chemical Abstracts* and clipping all summaries reporting work bearing upon company interests. The abstracts are then mounted on cards, indexed, and filed alphabetically in one master subject catalog.

Since it is just as important for a company to know what has been accomplished in its own laboratories as it is to know what has been published, some libraries broaden their activities to include the indexing and filing of confidential research reports issued by the plant laboratories. These records constitute valuable technical substance and are of great reference significance. Therefore, it is important that these private reports be minutely indexed so that data can be located readily.

Before embarking upon a new problem in the laboratory, the chemist must ascertain what information already exists. He, therefore, may ask his librarian to prepare a literature search compiling all published references bearing on his immediate problem. Information may be desired on specifications and standards of a

GUMS
Chemicals and Drugs
(CRUDE, POWDERED)

GUMS:
GUM ARABIC
GUM ARABIC BLEACHED
GUM GHATTI
GUM KARAYA (Indian)
GUM TRAGACANTH
GUM EGYPTIAN
GUM LOCUST (Carob Flour)
QUINCE SEED

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certain raw material; properties of substances; methods available for the testing, and analysis of a chemical or material; general and special applications of products. The purposes of such studies are to guide laboratory endeavors from the pitfalls of duplication, to disclose forgotten or submerged data necessary in developing an idea, and to illustrate what may be expected under certain conditions. By means of literature searches, the librarian saves the scientist a time-consuming, monotonous task, and averts repetition of expensive experimental work. Where a cursory review of the literature is needed, or where a general picture of a subject is required, bibliographies are prepared. The laboratory chemist uses them as a basis for further reading.

Aside from the literature searches and bibliographies, the library can be of assistance to the research and development staff by furnishing specific factual information. A chemist contemplating using a new raw material must know its dermatological action. The library can supply bio-chemical data showing the irritancy and sensitization of this material on the skin. The analyst may request data on the toxicity of a new reagent, and what precautions must be taken in handling and storing it. The chemical engineer may come to the library to learn the chemical, physical and mechanical properties of a certain material of construction. The library can furnish information on resistance to corrosion and other corollary data. The answers to some of the questions may be found in the standard handbooks, but more often detailed information is needed.

During a routine day the library staff answers such telephone queries as: What is it? What is it for? Who makes it? How much does it cost? or Who is he? Where does he work? Who said it? No matter if it is what—how—when—where—why? t h e l i b r a r i a n should know the answers or know where to find them.

Special files containing a variety of useful information are maintained to supplement the books and periodicals. Published commercial technical literature contains specific information concerning chemical raw materials and derived products, as well as equipment of use in the chemical field. Such a fact file enables the librarian to piece together a definite story about the properties, reactions and applications of new raw materials so that her client can intelligently select the proper material for his product or process. A patent file, arranged numerically, is valuable with a card index arranged by subject, patentee, and assignee to serve as a key to its use when the patent number is not known. A trade-name card file identifies a product as to its use, composition, and manufacturer. A roster file of society and association officers, kept up-to-date by watching for announcements of slates of newly elected officers, obviates the necessity of searching through the technical press each time a client wishes to know who's who in a particular professional group. Another card file may record the dates of meeting and the location where scientific and technical associations will convene. Programs of the meetings may also be available for perusal.

(Continued on page 106)

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Panthenol — Pyridoxine hydrochloride
Vitamin A acetate and palmitate synthetic

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ABREAST OF THE MARKETS

SCATTERED PRICE REDUCTIONS REPORTED AS STOCKS ARE REDUCED; MARKET SLUGGISH, AWAITS KOREA DECISION

A more definite trend in the market developed in June, with many essential oils being reduced in price, more favorable conditions being reported on botanicals and shaded prices on some chemicals, representing lower production costs of the basic materials.

Glycerine became rather inactive, with reports that consumers were still using up supplies they had bought many months ago when the war scare was at its peak. This was a tendency, in fact, which was coming to light in all phases of the market—most dealers had gone way overboard in stocking up on supplies because of the then impending war developments. When no real war came, and when dealers suddenly realized that buyers were moving cautiously in their purchases, buying more from day to day rather than on a six-month basis, they began to reduce their prices a shade here and a shade there.

Lower prices were even being quoted in several cases from essential-oil origins, a number of them, like citronella, showing definite signs of lower shipping prices, and, more important, an interest on the part of the origin, to re-enter the American market. In some cases, the prices at the origin were equal to or lower than the ceiling prices in this country, and in many cases, spot prices in New York were lower than the allowed ceiling figures. This seemed to indicate that the various essential-oil houses were again competing with each other instead of automatically setting the highest price for the items that the law allowed.

As for the botanical market, there was hardly any activity at all last month, and things seemed to get even quieter during the last few days while peace rumors were flooding the air. Consumers just decided to wait and see what would happen. There was some doubt as to the future prospects of the botanicals, however, for it was reported that crop collections of domestic items had been slow in getting started because of poor weather conditions, especially in North and South Carolina.

Prices quoted in this section were current on the first of this month.

Although a peaceful settlement of the Korean War was under serious consideration as we went to press, there was no definite assurance that peace would be consummated. Government officials, from the president down, warned against over-optimism and laxity in the defense program. It may take many months before Korea really becomes peaceful, and it may take only a few weeks. Much depends on the integrity of the warring nations as they assemble to exchange peace terms. Their decision will have a profound long-range effect on the markets.

If the Communists, for example, intend to exploit the Korean War as greatly as possible, and continue it for as long a time as China can bear it, interspersing it with occasional peace petitions, the market may fluctuate up and down many times. On the other hand, if the Reds feel it is wiser to end the Korean fighting they may choose to resume further strife on a different battle ground, such as in Iran or Yugoslavia, in an effort to weaken the Western powers and cause economic confusion. Whatever the master plan is, it will probably be several months before a definite picture can be had of the markets in this particular field.

Eucalyptus Oil Down to $1.30

Eucalyptus oil dropped 10c last month to the the range between $1.30 and $1.55, although replacements are increasingly difficult to obtain from the origin, where prices were said to be higher than U. S. ceilings.

Bois de Rose Oil More Favorable

Apparently sufficient oil was arriving in this country last month from Brazil, judging from the reduction in price ($4.75) as compared with the previous month's figure of $5.25. Spokesmen in the trade report that difficulties at the origin had delayed transportation of the oil to the shipping centers, but that conditions had improved considerably last month.

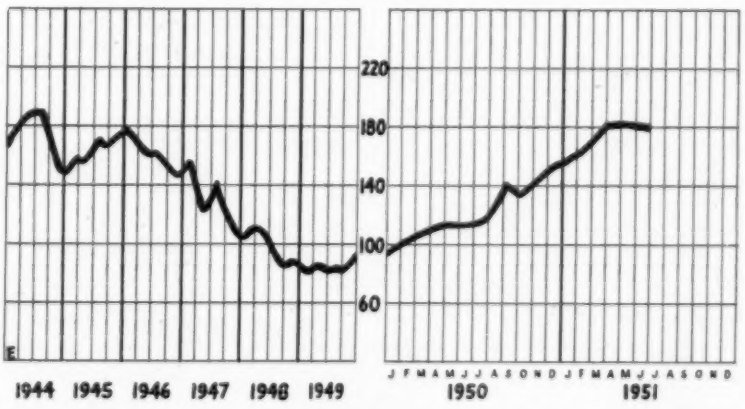
Mint Oils Wavering in Price

There were several reports last month of shipments of peppermint and spearmint oil arriving on the spot market at lower prices, but they did not have very much effect on the market as a whole. Some sources declared the reductions were offered by a few handlers of the mint who were anxious to dispose of their stocks in order to be ready for the new crop oil.

The Bureau of Agricultural Economics issued a report on June 6 which

(*Continued on page 102*)

15 Essential Oils—Weighted Price Index. 1926 = 100.



The essential oils index declined slightly from 183.3 to 180.4. Bois de rose, cassia, citronella, and eucalyptus oils went down.

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QUICKSILVER DOWN SLIGHTLY, REPRESENTS RESALE METAL; LITTLE ACTIVITY IN GUMS, WAXES; MENTHOL VERY SLACK

The spot price of quicksilver has been dropping slowly during the past two or three months, with the figure now ranging between $212 and $214. At first glance this might seem paradoxical since consumption of the metal is on the increase, in the defense, agricultural, and pharmaceutical industries. According to official figures on the consumption of the metal, the first quarter of 1951 provided a gain of 48 per cent over the comparable period of 1950.

Imports of the metal during the first quarter of last year amounted to about 60,000 flasks and were maintained at just about the same level this year. Stocks on hand, however, at the end of 1950 added up to 33,100 flasks; by March 31 of this year, that figure had declined by 5,800 to that of 27,300, but was still far above normal, judging from the 17,100 flasks on hand a year ago March 31.

Imports of quicksilver from the producing areas of Spain and Italy have recently been curtailed by the price restrictions in effect in the United States. The European price of the metal, in, fact, is now reported at $210 f.o.b. which would make it about $230 on spot in this country. It is very probable that these foreign countries are offering their metal to higher bidders and are indifferent for the present to the American market and the price ceilings.

The quicksilver which is now appearing in the spot market among the American dealers is mostly resale metal which was bought from Spanish and Italian sources in large quantities before they advanced the price to the current $210 figure and just after the Korean War began last year. Along with this high foreign price, it has been reported that several American mines have begun operation again, for the first time since the end of the second world war. Concensus in the trade is that the foreign quotations of the metal in excess of $200 will probably encourage the mines in this country to increase their operations and enter the market in full swing.

After the domestic production of the metal begins to show its effect on the market, presumably by August or September, the foreign quotations may begin to fall in an attempt to compete in the American market.

Menthol Very Quiet

There has been hardly any activity in menthol at all during the past month. No supplies have come out of China, and the menthol crop in Japan will not start until August. Prices in Brazil are greatly inflated and were much higher than the $11.50 to $12.00 range established on spot in New York. This very slack period has been attributed to the large inventories in consumers hands, probably carry-over material from early this year or late 1950. This factor, coupled with the normally slack summer season, has produced an exceedingly inactive market.

Confusion in Gums and Waxes

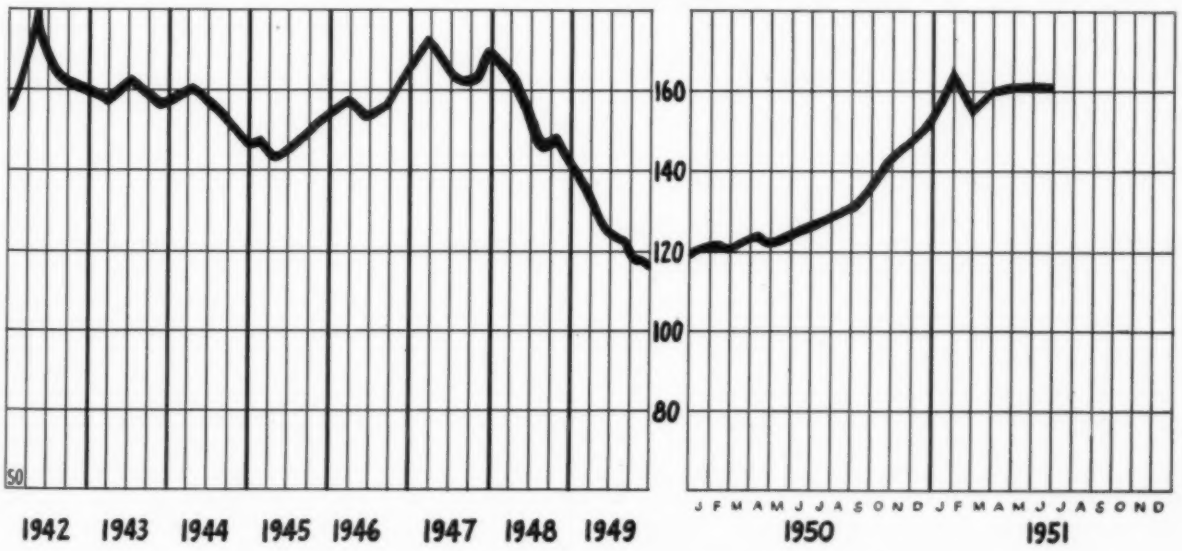
There were several minor changes in the prices of gums and waxes last month, with reports that dealers in this country were pretty well perplexed with all the restrictions, revisions, computations necessary to meet government requirements.

Candelilla went up 10c to 81c, carnauba wax No. 1 was up 4c to $1.32. and the North Country No. 3 was up 3c to the level of $1.21. Japan wax fell off 2c to 55c, and tragacanth gum '2 was off 10c to $3.40.

Production of carnauba wax in Brazil in the crop year 1950-51 is estimated at 11,400 metric tons, according to *Foreign Commerce Weekly*. The break-down by states is: Piaui, 5,100; Ceara, 4,750; Rio Grande do Norte, 750; Bahia, 550; and Paraiba, 250. The drought in the northeast, which increased the yield of the second cutting, and favorable prices both brought about the harvesting of a somewhat larger crop.

Exports of carnauba wax in 1950 are believed to have set a new record, having totaled 11,564 tons in the first 11 months of the year. According to reports, 1,150 tons were shipped in December, making a total for 1950 of about 12,700 tons. The United States was the major customer, as in preceding years, and absorbed almost 80 per cent of the total exports. Contrary to the

50 Raw Materials—Weighted Price Index. 1926 = 100.



The price index of fifty commodities for June declined a trifle from 161.6 to 160.6.

JUNE PRICE CHANGES

UP	DOWN	
Bay Oil 60c	Bois de Rose oil 50c	Magnesium Stearate 2c
Coriander oil $8	Caraway oil 25c	Menthol, Natural 50c
Ipecac root 50c	Cassia oil, Redist. 50c	Mercury $3
Lemon oil, Calif. 25c	Citronella oil, Ceylon 10c	Patchouli oil $3
Lime oil, Dist. 50c	Java 25c	Pennyroyal oil 25c
Orange oil, Amer. Cold Pressed 35c	Cocoa Butter 3c	VanillaBeans, Bourbon 25c
Wormseed oil $1.15	Eucalyptus oil 10c	Mexican Cuts 50c
	Lavender Spike oil 25c	Mexican whole 50c
		Zinc Stearate 2c

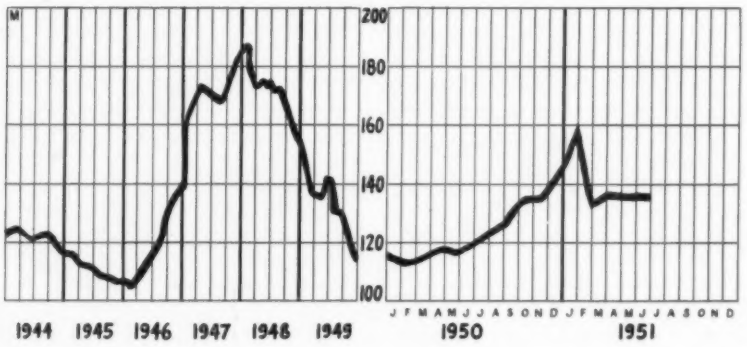
general rule, there was very small carry-over at the beginning of the new crop in September, 1950, with not more than 250 to 300 tons of wax on hand.

Little Activity in Glycerine

The glycerine market was very quiet during June, with very little demand for the refined material. Production of crude glycerine was down, with the result that there was very little available. A strengthening feature in the market, however, may prove to be the fact that Argentina is still exporting all of its surplus crude glycerine to Europe because of the attractively high prices offered from that region. As a result, very little material is arriving in this country, and the loss to the United States by the Glycerine purchases of the European market is estimated at about 300 tons a month. Spokesmen in the trade believe the absence of these imports will be felt domestically in a short time.

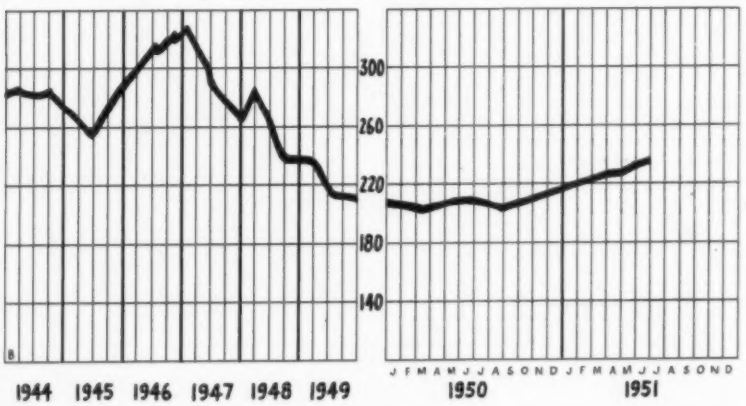
The sluggish demand for glycerine has resulted from the frantic buying which took place during the latter half of 1950 when consumers sought to expand their inventories as greatly as possible in order to meet the impending crisis and a possible world war. Now that the war is apparently being confined to boundaries of Korea, these consumers have decided to whittle their inventories down to more normal proportions. Defense plants are retooling for the expected onrush of government orders later in the year. Right now they are consuming very little glycerine, according to reports, but will most probably step up their requirements many fold in the months to come.

15 Medicinal Chemicals—Weighted Price Index. 1926 = 100



The medicinal chemicals index declined very slightly from 135.5 to 135.3. Menthol and mercury were lower.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index went up a little from 234.6 to 235.5. Ipecac root was higher.

Mint Oils Wavering

(*Continued from page 99*)

reviewed the two main growing areas, Michigan and Washington. According to this information, both peppermint and spearmint did very well in Michigan during the winter, and although the crop is a little late, it is of good quality and is expected to develop quickly, with the help of favorable weather.

A few fields in the state of Washington were adversely affected during the past winter, the report states, but the majority of them came through in good shape. During the spring, growth of the plants has been slowed up because of cold weather. Some areas in the Yakima Valley have reported damage from wireworms, while in the Mabton region, it has been the strawberry weevil.

Lemon Oil Remains Tight

California lemon oil advanced to $5 in June resulting from the scarcity still prevailing in that area. No relief at all was expected from Italy, since oil from that source is much higher in price and the production extremely limited. Ordinarily at this time of the year lemon oil buying increases greatly, but this expected drive has not occurred as yet. Future movments in this particular market will largely depend on whether or not this sudden spurt in demand takes place. Such an event could seriously deplete the available supply for a definite period of time.

Orange Oil Very Strong

Orange oil remained in a tight situation last month, with very little oil available from Florida, and higher priced material coming out of California, ranging from $2.50 to $2.75, depending on brand. The exchange brand was upped to $2.75 toward the end of the month. Production of the oil in California has improved in the last month, according to reports and may tend to offset additional advances in price.

The production of orange oil in Florida, up until 1951, exceeded a

million pounds a year. Because of a difficulty in processing the oil, however, which necessitated curtailment of operations among the large producers, production has fallen off severely to about 400,000 pounds, with the result that most of the demand has been exerted on the California oil.

Patchouli Oil Falls

Stocks in patchouli oil were reported heavy last month as demand dropped off. At the same time the price was quoted anywhere from $21 to $28, depending on seller.

Cassia Oil Down 50c

Cassia oil, contrary to the laws of logic, went down 50c last month to the range between $5.25 and $7.00, in spite of the uncertain conditions in the East. As in the case of anise oil, dealers who have plenty of cassia oil on hand seem to be anxious to sell as much as they can.

Citronella Oil Reduced

Some sources report that the arrival of new crop oil has been responsible for the recent decline in both the Ceylon and Java citronella oil. The former oil declined 10c to $2.30 on spot last month, while the latter went down 25c to $2.25.

Anise Oil in Competition

Various reports were received last month on anise oil, with some houses quoting from $2.25 to $2.60 and other sources hinting at a drop to as low as $2.00. Replacements are becoming increasingly more difficult to obtain as a result of the British sanction of the Chinese embargo and the Korean war; nevertheless, those dealers with sizable stocks seemed eager to sell as much of the oil as possible at that time.

Bergamot Shipments May Be Reduced

Spokesmen in the trade have indicated that since the Consortium in Italy had not allotted any bergamot oil to the United States for the month of June, and since demand for the oil is very heavy among the other European countries, it is quite possible that the number of shipments slated for this country at the beginning of the year will be halved.

Balsam Tolu in Short Supply

Balsam tolu was reported disappearing from the market during the first part of July, both in this country and at the origin. Buyers were said to be snatching up the material regardless of the price. If this trend continues, it will probably produce higher prices in the item in the next few months.

The price of balsam tolu had up to that time remained in the range between $6.75 and $7. Balsam Peru also remained in the range between $2.70 and $2.75.

Cocoa Butter Down 1c

The price of cocoa butter declined to 74c last month, as the demand was reported on the quiet side and stocks were sufficient to fill all needs.

Stearates Reduced

Because of more favorable stearic acid costs, all of the stearates have been reduced 2c a pound. Magnesium stearate powder, purified, is quoted at 47c for a 50-pound corrugated case and 46c for a 2,000-pound delivery. Zinc stearate, USP XIV, cosmetic grade, has been reduced to 46c a pound for the 50-pound case, and to 45c for the 2,000-pound delivery.

Vanilla Beans Demand Off

There was a slight decline in prices in the vanilla bean market last month probably because of the rather slight demand at that time. The Bourbon variety were selling for as low as $3.25 and as high as $3.75, the Mexican cuts ranged from $5 to $5.50, and the Mexican whole, from $5.75 to $6.25. One dealer pointed out that the vanilla bean prices were at the lowest point they had been for the past 50 years.

The belief is that business will pick up in the next few months when consumers are expected to begin placing large orders for later delivery.

Alcohol Expected to Become Firmer

Several developments below the surface of the alcohol market may tend to create a firmer picture by the fall months, according to spokesmen in the trade. One of the large alcohol producers went on strike during the latter part of last month, and this could prove a serious setback to the industry if the strike prevails for any length of time. Another factor is the increasing interest in the frozen cologne market which is absorbing a sizeable amount of alcohol; this too may tend to drain the market in the fall months, especially if the defense program of the country gets under way on a full scale.

The alcohol tax unit of the Bureau of Internal Revenue, Treasury Department released the following information on June 4 on the supply, production, withdrawals, and stocks of ethyl, completely denatured and specially denatured alcohol during the month of April, 1951, in comparison with April, 1950.

Production

	Proof gallons	
	1951	1950
Ethyl	37,740,378	31,210,350
*Completely denatured	49,998	24,158
*Specially denatured	31,137	77,002

Note: Negative production figure results from deduction of completely denatured alcohol, previously reported produced, which was converted to specially denatured alcohol.

Withdrawals

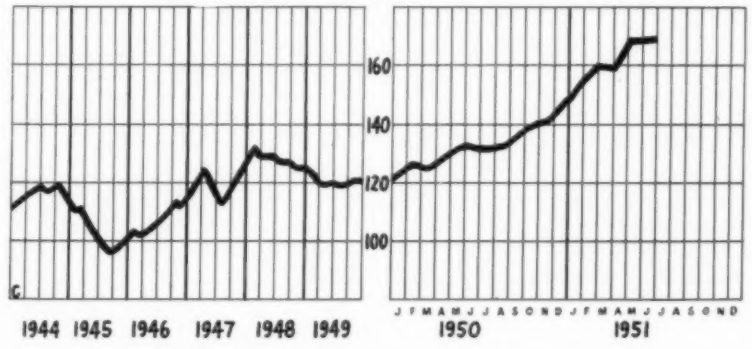
	Wine gallons	
	1951	1950
†Ethyl, tax paid	2,051,185	3,551,609
tax free	32,652,929	29,100,115
*Completely denatured	50,150	33,483
*Specially dentured	21,951,476	15,888,303

Stocks

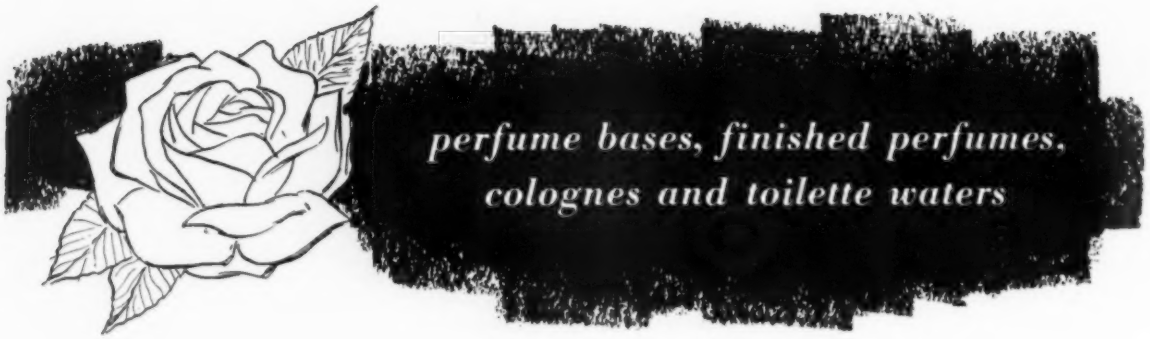
	Gallons	
	1951	1950
†Ethyl	71,000,600	25,729,192
*Completely denatured	31,137	97,002
*Specially denatured	8,682,256	2,249,411

*Wine gallons. †Proof gallons.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.



The cosmetic raw materials index went up very slightly from 169.4 to 169.6. Candelilla wax was higher; Japan wax and menthol were lower.



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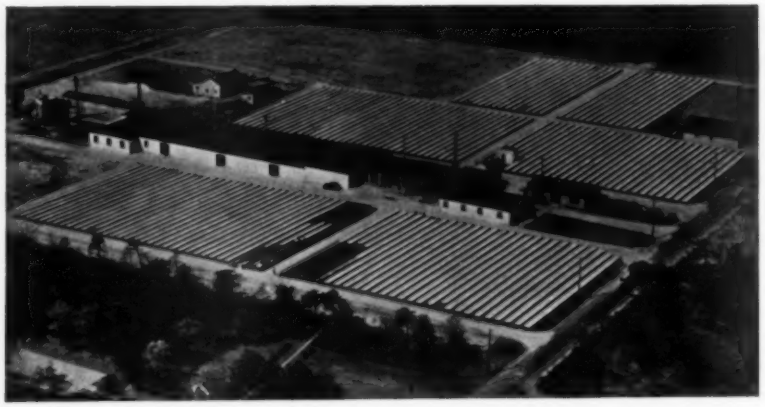

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INDUSTRY'S BOOKS

Methods of Vitamin Assay, Prepared and edited by The Association of Vitamin Chemists, Inc., Second Ed., revised and supplemented, 301 pp., Interscience Publishers, Inc., New York, $5.50.

This edition reflects increasing experience with vitamin methodology. It includes assays for several members of the vitamin B complex for which methods were not described in the First Edition, namely, pantothenic acid, pyridoxine, folic acid, biotin, vitamin B_{12}, and a chemical analysis for niacin. In addition, the methods presented in the First Edition have been revised to incorporate pertinent information from the current literature as well as modifications and changes in procedure suggested by the many interested users of the book. The chapter, "Methods for Other Vitamins," which discusses those vitamins for which specific methods have not been outlined, has been extended to provide the analyst with a basis for selecting a procedure suitable to his work. In this connection an attempt has been made to discuss briefly the relative merits of the various published methods and their applicability to different types of samples.

Industrial Solvents, by Ibert Mellan, Industrial Chemist and Consultant, 758 pp., Second Ed., Reinhold Publishing Corp., New York, $12.

The second edition of this reference book is the most comprehensive and up to date treatment of industrial solvents available. This edition has been completely rewritten and full information on recently introduced solvents has been added. The extensive data on solvents has been sifted and correlated into a coherent whole. The early chapters in the book deal with the theoretical aspects of solution. An excellent chapter on the handling of toxic and flammable solvents has been added. Considered in detail are over 380 solvents grouped to meet the needs of all industries. The text covers physical data, commercial uses and applications and all other pertinent data. A large number of graphs and tables have been included to afford the user an efficient and rapid means of obtaining specific and comparative information especially on the physical properties of solvents. Special attention is given to such properties as evaporation ratio, solubility, phase equilibrium and dilution ratio. There is a thorough discussion of solvent applications in such industries as paint, varnish, lacquer, food, drug, chemical, dry cleaning, metal, disinfectant, economic poisons and those dealing in selective extraction processes such as fat, gum, wax, drugs, and chemical.

International Riechstoff-Kodex, by Arno Muller, 375 pp., Dr. Alfred Huthig Verlag, Heidelberg, DM 28.

Since the publication of the Second Edition of this work in 1942, the production of aromatic chemicals has been resumed on a considerably increased scale and extensive research work has been carried out on important natural raw materials and their synthesis. This, naturally, had a tremendous influence on the industrial production of aromatics and necessitated a new Third Edition of this work. The new text includes: General properties, solubilities, fluorescence in filtered ultraviolet light, relative tenacity odor intensities, stabilities in soaps, prooxydative and antioxydative effects, toxicity to flies, animal odors, spicy odors, earthy odors, smoky odors, balsamic odors, etc. Altogether, the Compendium deals with several thousand aromatic chemicals and perfume bases.

White Mineral Oil and Petrolatum, by Erich Meyer, Ph.D., Department of Industrial Research, L. Sonneborn Sons, Inc., 135 pp., Chemical Publishing Co., Inc., Brooklyn, $4.75.

In spite of the widespread use of white mineral oil and petrolatum, very little information regarding their chemical and physical characteristics and their use is found in today's textbooks and handbooks of chemistry or medicine. This book has been prepared to fill this gap in the technical literature. It should prove useful to all users of white mineral oil and petrolatum. The data and information presented is based on industrial research by the author, and on laboratory and factory experience. The ingredients and nature of crude oil, its refining by chemical treatment, the quality standards of white mineral oil and petrolatum and their manufacturing process are discussed in detail. A full chapter is devoted to the numerous applications of both products in the various industries, and formulas as well as specifications for each use are also included. There are individual chapters devoted to testing methods adopted by industry and handling and shipping provisions.

Medicinal Chemistry, Volume I, 473 pp., John Wiley & Sons, Inc., New York, $12.00.

This is a series of reviews prepared under the auspices of the Division of Medicinal Chemistry, American Chemical Society. The purpose of this series is to summarize the available data on the biological properties of medicinal substances and to correlate the relationship between chemical structure and physiological activity in each area covered. Each section of this work is written by men actively engaged in industrial research. These experts are equipped to write from a practical as well as a theoretical standpoint. They summarize the work already done in the field, and point out where further research is particularly needed. Each chapter of Medicinal Chemistry is a self-sufficient unit, supplying the following information about one type of medicinal compound: 1. Lists all compounds that have been tested for the type of pharmacological activity covered in that chapter. 2. Examines the relationship between chemical structure and pharmacological action. The author includes references to groups of compounds, particularly in the patent literature, which have been claimed to have pharmacological activity, even if data to support the claim have not been published. 3. Discusses methods of synthesis and pharmacological text procedures for the compounds covered. These are designed to help the reader judge the status of work in that area. 4. Gives selected references to pertinent articles in scientific journals, and to the patent literature.

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A Company Library in the Cosmetic Plant

(Continued from page 97)

But suppose the library lacks the needed data? Does the librarian's responsibility end there? By no means. There are other libraries with which the librarian should be sufficiently conversant to know their possibilities and sufficiently familiar to draw upon their resources. By means of inter-library loan, photostats and microfilm, the library can bring to the research man the specialized research facilities of large universities, technology departments of the major public libraries, government and society libraries, and special collections in industry.

Service should be extended to the production department by routing current literature on production methods, machinery, tools, and factory organization. In all manufacturing processes inspection and quality control constitute an essential part of the production line. Quality control, of course, is far from new. But statistics in the industrial plant are fairly new. The chief of the control laboratory and the production manager should, therefore, be informed when statistical techniques of modern quality control are outlined in the literature or when lectures on this subject are scheduled.

The man engaged in consumer-product research is a collector and interpreter of a vast multitude of facts. The library can function as his intelligence service by having available the major source materials that keep him posted on supply and demand, costs and prices, production and consumption. Thus, when a new marketing territory is being considered, the marketing man may turn to his library for statistics on population, income, industries, and sales of the region. The librarian also watches for announcements of consumer surveys made by outside agencies and articles on improved market research techniques to call them to the attention of the marketing division.

Good advertising is based on facts, and the convenience, time saving and economy of having source material centralized in the library enables the creative staff to base its work soundly upon factual information. The library can be of value by verifying facts used by the copy people, supplying pictures and examples of layout techniques, and by routing clipping of advertising campaigns used on competitive products. In one case a request came from a copy writer who wanted a collection of quotations on thrift to highlight in his copy.

Services of the library may be available to employees at other levels where specialized information is not required. Plant managers may be informed of new safety devices; foremen and supervisors may be kept up-to-date on means to increase productivity and improve morale; office managers may be informed of new techniques in work simplification and records management; secretaries may be given information about the correct form of address and correct usage of words and phrases. Some librarians serve in an advisory editorial capacity with suggestions as to effective presentation, styling and clarification, thus raising the literary quality of letters and reports.

The ivory tower idea is outmoded in our modern conception of the library. It is far from a dusty affair, very much to the contrary. It is an alert task force ready to put knowledge to work, for "a man's judgment is no better than his information."

Patent Thoughts and Trends

(*Continued from page 93*)

In comparison with dibenzyl beta-chloroethylamine hydrochloride (DIBENAMINE) the new agent is said to show a third more pressor reversal under the same conditions, and the new agent is said to last longer.

Enteric Vitamin Preparations

Parke, Davis claims to have solved the problem of the regurgitation of oils containing vitamins A and/or D by providing a stable, solid vitamin preparation having enteric properties and containing these vitamins.

The product of the patent is made by dispersing or emulsifying vitamin A and/or D oil in an aqueous mixture comprising gelatin and a water-soluble, alkali metal carboxylate salt of a partial ester of a polycarboxylic acid and a suitable cellulose ester, drying the resulting emulsion to the solid state in the form of thin sheets, pulverizing the solid material and removing any uncoated vitamin oil from the surface of the granulated vitamin so obtained with an organic solvent for the vitamin oil.

The following example taken from the patent is said to illustrate the invention:

A finely divided mixture consisting of 10.5 g. of sodiumbicarbonate monohydrate and 42 g. of cellulose-acetate-phthalate (-COOH content about 11 per cent) is added with stirring to 290 g. of hot water and the mixture stirred until solution is complete. In a separate container 216 g. of granulated sucrose is dissolved in 610 g. of hot water and 330 g. of gelatin (Bloom 200 g.; viscosity 46 centiposes and pH 4.5) soaked in the resultant solution for about two hours. The gelatin is melted and the solution stirred until it is homogeneous. The aqueous solution of the sodium salt of cellulose acetate phthalate is added with stirring to the plasticized gelatin solution at about 120°F. and the warm mixture stirred until it is homogeneous. 412 g. of a vitamin A and D concentrate containing 652,000 units of vitamin A and 65,000 units of vitamin D per gram is added slowly to the warm gelatin-salt mixture and the resulting mixture emulsified by increasing the speed of the agitator or by the use of a suitable mechanical homogenizer. During the addition of the vitamin oil and the emulsification of the oil in the warm aqueous mixture the mixture is preferably blanketed with carbon dioxide or nitrogen gas in order to prevent unnecessary oxidative deteriation of the vitamin A.

After emulsification is complete the mixture is run off into thin sheets (about 0.020 inch in thickness) in pans and dried at about 100°F. for eighteen hours in an atmosphere having a low relative humidity, e.g. on the order of about 20 per cent. The dried sheets are ground to about a 40 mesh granulation in any suitable grinding apparatus, e.g. a revolving hammer type mill, coffee mill or the like and the resulting granulation freed from any vitamin oil liberated during the grinding process by washing it with about 1500 cc. of benzene. The benzene is evaporated from the washings and the recovered vitamin oil used in a subsequent run. The amount of oil recovered at this point in the process depends largely on the degree of emulsification obtained in the emulsification step and varies from as low as 5 per cent to about 40 per cent of the total amount of vitamin oil used.

The granulated vitamin product obtained after evaporation of any adhering benzene is light yellow in color and weighs about 1000 g. This solid, homogeneous, enteric product contains 134,000 units of vitamin A per gram by spectrographic analysis and 112,000 units of vitamin A and 13,000 units of vitamin D per gram by biological assay in rats.

Fine Chemicals — BPC

PHARMACEUTICAL CHEMICALS

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CHINIOFON (YATREN)
CHLORBUTANOL
CINCHOPHEN
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IODOXYQUINOLIN SULPHONIC ACID
NEO CINCHOPHEN
OXYQUINOLIN BENZOATE
OXYQUINOLIN SULPHATE
POTASSIUM OXYQUINOLIN SULPHATE
PHENOBARBITAL
PHENOBARBITAL CALCIUM
PHENOBARBITAL SODIUM
PENTOBARBITAL SODIUM
THEOPHYLLINE

INTERMEDIATES

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TABLE I

Shampoo Type (0.5% Solution)	pH of Scour Solution	Foam in Tap Water	Color of Scoured Wool in Tap Water	Percent Grease Removal Tap Water	175 ppm Hard Water	Synthetic Sea Water
Alkyl sulfate	7.7	good	dull	62.6	64.3	31.5
Alkyl sulfate	7.8	slight	dull	65.4	65.4	45
Alkyl sulfate	7.3	slight	dull	78.5	69.1	18.7
Alkyl sulfate	7.3	slight	dull	77	47.3	10
Soap	9.3	slight	dull	41.3	15.1	7.8
Soap	9.5	slight	dull	35.3	19.5	XS
Soap	7.9	slight	dull	42.6	27.4	12.4
Soap	7.8	slight	dull	XS	5.1	XS
Soap	7.9	slight	dull	XS	4.0	XS
Soap	7.6	slight	dull	22.6	17.1	XS
Soap	9.4	slight	dull	51.9	21.1	XS
Soap	9.1	slight	dull	44.5	28.7	12.4
Miscellaneous	6.6	slight	dull	42.5	24.6	XS
Miscellaneous	6.4	good	bright	87.9	93.9	86.8
Non-ionic cationic	7.5	none	bright	92	57.6	44.9
Miscellaneous	10.5	slight	dull	39.4	28.4	14.2
Miscellaneous	6.6	good	bright	46.2	34.6	13.9

XS indicates no measurable amount of grease was removed from the skein.

Shampoos in Hard, Tap, and Sea Water

(Continued from page 39)

the grease with no added oils and with a known wool grease content. An accurately weighed sample of yarn is gently scoured in a definite concentration of shampoo or detergent in a known volume of tap water, hard water or sea water for an exact time under controlled conditions. The scoured wool is squeezed dry and rinsed twice in a fixed volume of tap water, hard water or sea water for a given time, then dried, and finally extracted with petroleum ether. The difference between the previously determined grease content of the raw wool and the percentage left after the shampoo scouring is a measure of the relative detergent action of the particular shampoo or chemical compound.

Experimental

The wool yarn as received on the cone is cut into 20 foot lengths which will weigh between 4.5 and 5 grams. A quantitatively weighed sample is placed in a 500 ml. Erlenmeyer flask containing 200 ml. of tap water, hard water or sea water at 38°C. and 1.0 gm. of shampoo or 0.50 gm. of detergent (calculated on a 100 per cent basis) added. The flask is stoppered and slowly inverted back and forth at 50 times per minute for 4 minutes, after which time the wool is tightly hand-squeezed to remove most of the solution. (Sample may be squeezed through a hand wringer.) The flask is drained and rinsed free of residual detergent, then filled with 100 ml. of tap water, hard water or sea water at 38°C., to which is then added the damp scoured wool sample.

TABLE II

Detergent (0.25% Solution)	pH of Scour Solution	Foam in Tap Water	Color of Scoured Wool in Tap Water	Percent Grease Removal Tap Water	175 ppm Hard Water	Synthetic Sea Water
Sodium alkyl sulfate	8.3	good	bright	98.5	99.1	93.1
Triethanolamine alkyl sulfate	6.8	good	bright	94.8	94.5	89.4
Ammonium alkyl sulfate	6.6	good	bright	97.8	97.5	95
Alkyl phenoxy polyethoxy ethanol	6.3	good	bright	98.1	97.5	95.7
Sodium sulfo fatty ester	5.9	good	bright	97	93.4	85.4
Ammonium sulfated monoglyceride	4.9	good	bright	96.7	94.9	92.3
Protein fatty acid condensate	6.9	good	bright	90.9	80.5	58.5
Alkyl phenoxy polyethoxy ethyl sulfate	5.3	good	bright	95	93.4	18.8
Polyglycol non-ionic	7.4	poor	bright	93.6	79.3	62.3
Polyhydroxy amine fatty acid condensate	7.7	good	bright	96.6	95.5	11.1
Sodium alkyl aryl sulfonate	7.6	good	bright	95.8	93	53
Triethanolamine alkyl aryl sulfonate	6.7	good	bright	89.2	81.2	11.3
Di-alkyl phenoxy polyethoxy ethyl sulfonate	7.7	good	bright	92.7	92.8	88
Potassium coconut soap & sequestrant	9.6	good	bright	94.2	67.8	XS
Ammonium oleate	8.9	good	dull	12.7	3.8	XS
Alkyl dimethyl benzyl ammonium chloride	–	slight	very dull	XS	XS	XS

XS indicates no measurable amount of grease was removed from the skein.

This operation serves as a rinse by shaking the stoppered flask for 2 minutes in a similar fashion. Remove the wool, squeeze tightly as before to remove most of the water, rinse the flask free of residual detergent, fill with another 100 ml. of tap water, hard water, or sea water at 38°C, and repeat the second rinsing by shaking for 1 minute. Remove the wool, squeeze to eliminate most of the water and thoroughly dry in a 45°C. oven.

During the drying operation, accurately weigh two 400 ml. extraction flasks and a second wool yarn sample previously cut into a 20 foot length. Place the completely dry sample in the extraction thimble and reflux for 1 hour with 200 ml. of petroleum ether to remove the residual grease. The second unscoured wool sample is used as a control by extracting in the same manner to determine the grease content. Evaporate the solvent over a steam bath in the hood to constant weight. This last step is of extreme importance to insure that all solvent has been removed—hence the flask should be checked to constant weight by repeated evaporation. It was found that one hour was usually adequate.

Calculations

A. Control

$$\frac{\text{(wt. of flask + contents)—wt. empty flask}}{\text{wt. of wool sample}} = \%\ \text{grease content}$$

B. Scoured wool sample

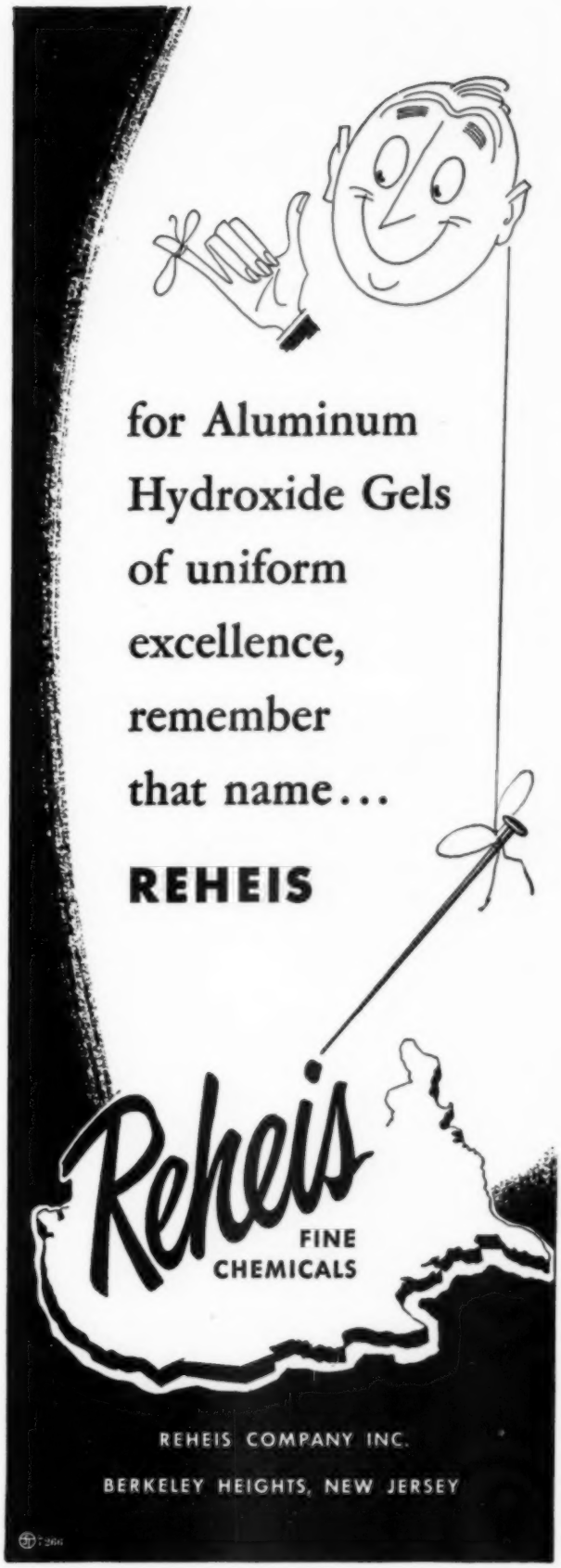
$$\frac{\text{grease content in control—grease content in control}}{\text{grease content in control}} = \%\ \text{grease removal}$$

Discussion of Test Method

All samples when run in duplicate gave a reproducibility as close as 0.3 per cent and a maximum deviation of 2 per cent. Greater precision in all cases may be realized if the duplicate samples are shaken simultaneously. An entire series may be scoured at one time by utilizing a suitable shaking apparatus with fairly slow rocker arms. This procedure, however, would require removal of all wool samples at the same time to maintain uniform immersion in the detergent solution. Based on the entire research program, the results would indicate very good precision when evaluating the relative detergent efficiencies of various surface-active agents and shampoos.

Preparation of Hard Water and Sea Water

As indicated in our test method procedure the wool skeins were not only washed in hard water or sea water but were rinsed in the hard water or sea water. It is essential that this precaution be taken since in actual practice the hair would be rinsed in the hard water or sea water and the use of soft water under these conditions would give an inaccurate and incomplete picture. The composition of the 175 parts per million hard water and synthetic sea water[5] are listed below. A number of trace elements known to be present in sea water were omitted since it was felt that their addition would in no way affect the performance and validity of the test.



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Magnesium chloride $6H_2O$	7.102 grams
Sodium chloride	26.539 grams
Potassium chloride	0.716 grams

Made up to 1000 ml. volume

Hard Water—175 parts per million

Calcium chloride (anhydrous)	0.1295 grams
Magnesium chloride $6H_2O$	0.1406 grams

Made up to 1000 ml. volume

Cleansing Action of the Shampoos

Table I (see page 108) lists the percentage of grease removed from the skeins by the B-P method using ½ per cent solutions of the shampoos in tap water, hard water and sea water. The pH of the shampoo solutions is noted as well as the relative amount of foam. A completely scoured skein was nearly white and listed as "bright." In many cases in hard water and in sea water a white insoluble precipitate separated from solution.

Discussion of Results

The shampoos were listed in three general classes—the alkyl sulfate type, the soap type and miscellaneous including all others. It should be realized that in every case the shampoo contained ingredients in addition to the sulfate or fatty acid salt. For example, one of the soap shampoos shows some action in sea water due to the presence of a sequestering agent. One shampoo was unique since it contained a mixture of a non-ionic detergent with a cationic. While the shampoo had little foaming action it gave excellent cleansing action in tap water and relatively good action in hard water and sea water. The evidence here indicates that the cationic is not adsorbed by the hair in the presence of the non-ionic detergent. Study of these combinations will be investigated later.

The pH of the shampoo solutions vary from 10.5 to 6.4 with 8.0 as the average. With at least 75 per cent grease removal required for a good shampoo only four of the commercial shampoos meet this figure and only one gives good cleansing in hard water and sea water. Obviously some of these shampoos would have given better results with higher concentrations but many of them with double and triple the quantity would have shown little improvement.

XS in the table indicates that more grease or soil was left on the wool after scouring than was present at the start. Two of the soap type shampoos showed little scouring action in tap water as well as hard water and sea water. The low pH of these soap type products may account in part for their poor cleansing action.

Evaluation of Detergents

The study of the cleansing action of ¼ per cent solutions of detergents and soaps in tap, hard and sea water was particularly interesting (Table II, Page 108). In general these products gave excellent performance under all conditions and it should be remembered that

these are the outstanding detergents on the markets. They were selected from the hundreds available as being the best performers.

In considering the broad types of anionic, cationic and non-ionics, it appears that the cationics have no scouring action and may be adsorbed. The non-ionics are excellent and statistically a non-ionic is the best product tested. Among the anionics, the alkyl sulfates show up consistently as excellent performers but some of the other sulfates and sulfonates fall off rather sharply in sea water. This poor performance in sea water may be due to the poor colloidal activity of their calcium or magnesium salts. Built and sequestered fatty acid soap is far superior to straight ammonium oleate and this, of course, is to be expected.

Conclusion

There are a range of anionic and non-ionic detergents which are effective scouring and cleansing agents under the conditions of Barnett-Powers test method. This method comes close to simulating actual shampoo methods and appears to be superior to many other tests. On the other hand, the successful commercial shampoos are surprisingly poor and ineffective scouring agents. It is apparent that their foam, fragrance and finish has been given more study and attention. It is suggested that the best performance would be achieved by *two products*, one to thoroughly clean the hair and a second product to impart fragrance and finish and luster and combability.

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Antiperspirant Testing

(*Continued from page 41*)

place. Regular work of most of the subjects was continued during the test.

For the purpose of comparing data, ratios were calculated from the weights of perspiration obtained.

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$$\frac{\text{Weight of perspiration in right axilla}}{\text{Weight of perspiration in left axilla}} = \text{ratio}$$

the weights of perspiration being obtained simultaneously. After establishing a normal ratio for an individual subject, one axilla was treated with the preparation to be tested leaving the other as a control. If the left axilla became the treated one, the ratio would become larger if the preparation were effective in lessening perspiration. If the right axilla became the treated one, the ratio would become smaller if the preparation were effective.

Of a large group of subjects, men and women, we found a number who did not perspire sufficiently to serve as good subjects. We established a minimum of 100 milligrams of perspiration per axilla in order for a ratio to be calculated. (The exception to this would have been if a preparation would prove 100 per cent effective.) Subjects varied from 100 to 2000 milligrams of perspiration per axilla in a 30 minute wearing of the pads to less than 100 milligrams per axilla in 90 minutes.

Preliminary data indicated that, for the majority of subjects, the right axilla perspired more than the left. Also, single applications of an astringent drug, such as aluminum chloride, formaldehyde, bichloride of mercury, and tannic acid showed no tendency to alter the ratio to indicate suppression of perspiration. With this background, the following test procedure was planned.

Test Procedure

Subjects were required to refrain from the use of any antiperspirant or deodorant preparation in the axillas but not required at any time to alter their regular routine of bathing. The test continues for four weeks with data collected as follows:

Week 1. Control data collected Monday through Friday.

Week 2. Subject to apply antiperspirant preparation to left axilla morning and night Friday evening of 1st week through Friday morning of 2nd week with four sets of perspiration ratios being obtained on each of the five week days.

Week 3. Same as week 2 except the right axilla become the treated areas as of Friday night of the 2nd week and the left untreated.

Week 4. Same as week 1, another week of control data.

Table 1 indicates the planned procedure under ideal conditions of cooperation by subjects. Since preliminary data showed that subjects' perspiring ratios were the same whether the data was obtained in a hot humidity controlled room with or without exercise or at ordinary room temperature, this procedure was carried out at room temperature with subjects going about their regular jobs.

Discussion

Table 1 outlined the method of testing an antiperspirant preparation. From the nature of the test,

TABLE I

	Sun.		Mon.		Tues.		Wed.		Thurs.		Fri.		Sat.	
	L[b]	R	L	R	L	R	L	R	L	R	L	R	L	R
1st Week			—[c]	1[e]	—	1	—	1	—	1	—	1	L[d]	—
A.M.[a]			2		2		2		2		2			
			3		3		3		3		3			
			4		4		4		4		4			
P.M.			—	—	—	—	—	—	—	—	L	—	L	—
2nd Week	L	—	L	1 —	L	1 —	L	1 —	L	1 —	L	1 —	—	R
A.M.			2		2		2		2		2			
			3		3		3		3		3			
			4		4		4		4		4			
P.M.	L	—	L	—	L	—	L	—	L	—	—	R	—	R
3rd Week	—	R	—	1 R	—	1 R	—	1 R	—	1 R	—	1 R	—	—
A.M.			2		2		2		2		2			
			3		3		3		3		3			
			4		4		4		4		4			
P.M.	—	R	—	R	—	R	—	R	—	R	—	—	—	—
4th Week			—	1 —	—	1 —	—	1 —	—	1 —	—	1 —	—	—
A.M.	—	—	2		2		2		2		2			
			3		3		3		3		3			
			4		4		4		4		4			
P.M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—

a. A.M. and P.M. reading horizontally refer to morning and evening applications of the antiperspirant preparation under test.
b. L and R reading vertically refer to left and right axilla respectively.
c. The — refers to no application of an antiperspirant preparation.
d L refers to the subject applying an antiperspirant preparation to the left axilla For example, in this instance it refers to an application to the left axilla on this Saturday morning.
e. The number 1, 2, 3 and 4 in a vertical column refer to four separate sets of weights of perspiration taken in left and right axillae simultaneously on this day.

it is understandable that checks and double checks are needed to ensure reliable data.

Some of the things that can go wrong are:

1. Subject fails to apply preparation
2. Subject applies preparation to wrong axilla
3. Subject applies preparation to both axillae
4. Subject switches pads in applying to axilla or returning to jar.
5. Pads slip out of place during wearing period and allow evaporation of perspiration.

By collecting at least 4 pieces of data from a subject during a day we felt we could get 3 that were satisfactory to average. In table 2 for 1/22/47 we felt that the ratio 1.67 was sufficiently far away from the other ratios of that day to consider that something was wrong and therefore would not include this figure in averaging the days results.

In switching from left axilla treated to right axilla treated, there may be a hold-over effect in the left which can affect the ratio. Also in going from right axilla

Table 3 is a compilation of data obtained on typical subjects.

TABLE 3

Subject	Control Ratios R/L	Axilla Treated	Ratios After Treatment Mon.	Tues.	Wed.	Thurs.	Fri.
#101[a]	1st week 1.32	L	(4x)[b] 1.48	(5x) 2.22	(5x) 2.22	(7x) 2.20	(11x) 2.33
	4th week 1.28	R	[c]	(1x) 1.00	(2x) 1.08	(4x) .93	(6x) .99
#102	1st week 1.47	L	(5x) 2.45	(7x) 2.08	[b]	(11x) 1.97	[b]
	4th week 1.52	R	[d]	[b]	(9x) .71	(11x) .61	(13x) .69
#115	1st week 1.25	L	(5x) 7.48	(7x) 5.21	(8x) 5 79	(9x) 4 36	[c]
	4th week		(4x) 1.64	(6x) .98	[e]	[e]	[c]

a. Subject numbers were assigned odd numbers for men and even numbers for women.
b. Designation x, 1x, etc., preceding a ratio refers to the number of applications at twelve hours intervals of antiperspirant preparation that had been applied in that axilla.
c. No data collected this day.
d. Insufficient date to average.
e. Subject not present for date to be collected.

TABLE 2

Typical Daily Data on a Subject Using a Commercial Antiperspirant Preparation
(**Boldface** Indicates Treated Axilla)

Date	Preparation	Left Axilla	Right Axilla	Ratio R/L	Minutes Pads worn	Hours between Treatments & Test
1/15/47	X[a](2x)[b]	529[c]	**564**	1.06	30	½[d] hour
		663	**764**	1.17	30	1½ hours
		537	**534**	.99	30	4 "
		848	**935**	1.10	30	6¼ "
1/16/47	(4x)	1026	**975**	.95	30	¼ hour
		641	**586**	.91	30	2 hours
		743	**662**	.89	30	3 "
		321	**326**	1.02	30	4¼ "
		651	**578**	.88	30	6½ "
1/22/47	(7x)	347	**822**	2.34	40	1½ "
		443	**1050**	2.39	45	2¼ "
		260	539	2.07	30	3 "
		212	428	2.02	35	3½ "
		145	243	1.67	30	5½ "
		419	**954**	2.28	45	6¼ "
		511	1072	2.10	30	7 "
1/23/47	(9x)	**506**	862	1.70	30	2 "
		265	533	2.01	30	3 "
		280	559	1.96	30	3¾ "
		215	407	1.90	30	4½ "
		406	784	1.93	30	5¾ "
		297	571	1.92	30	6½ "
		583	1144	1.96	30	7 "
		459	737	1.63	30	8¼ "

a. A commercial preparation containing aluminum sulfate as the active agent.
b. 2x refers to the number of applications of the antiperspirant at 12-hour intervals preceding the test.
c. Weight in milligrams of perspiration in this axilla obtained while pads were worn for thirty minutes as designated in the column minutes pads worn.
d. Time interval between the last application of the antiperspirant and application of the pads.

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•

Once you could expect your youngsters to drive you frantic singing nursery rhymes. Since TV however, they aggravate the damage by lyricizing special brands of cigarettes, soap powder or frozen foods.

•

Animated cartoons are also making psychiatry a national need. In place of the original horrifying story of Little Red Riding Hood, whose grandmother provided a prandial delight for the Wolf, one TV sponsor offered a more disturbing version:

The Wolf and Grandma share a soft drink that everybody knows produces more "repeats" than an automatic record changer.

•

Even some of the news commentators are dependent on art work, presumably to show the difference between Radio and Television. One brilliant analyst recently used drawings of Harry S. Truman, the Empire State Building and General MacArthur, just in case the TV audience was in doubt about the following:

(a) The President of the United States, (b) the tallest building in New York City, (c) the man who put the Waldorf-Astoria under martial law.

•

The most irritating gimmick, of course, is the obtrusion of a "commercial" at the high point of an old movie. Half the standard products peddled weren't even invented when the movie was first released. Besides, who wants to see a refrigerator ad right after the movie hero detective announces: "I'm going down to the morgue!"

•

Naturally, the Cosmetic Industry, always opposed to over-stimulating advertising, looks with disfavor on Television. One shampoo manufacturer's wife bought his product under a different trade name. What used to be her crowning glory has abdicated so thoroughly, she now has more hair growing out of her ears.

George Fiedler

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treated to no treatment a hold-over effect could occur.

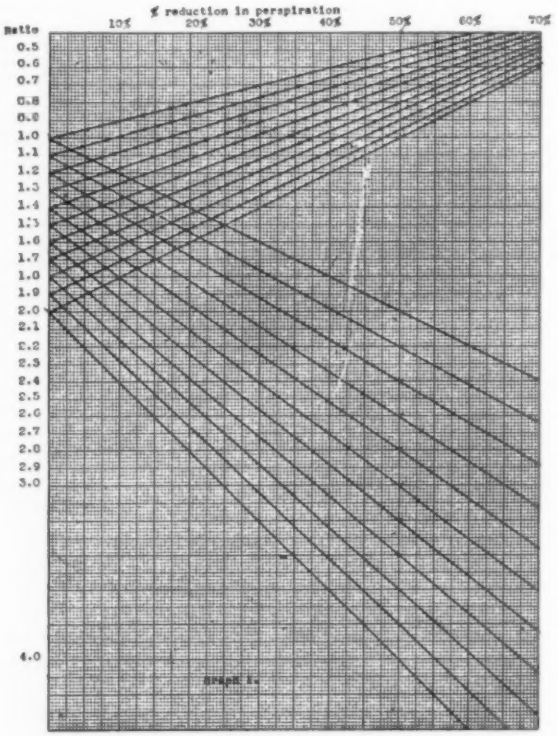
Effectiveness can be calculated on the basis of the change in ratio due to treatment of one axilla with an antiperspirant and leaving the other axilla as a control. As noted in Table 2, control ratios show that one axilla perspires more than the other. Hypothetically, if a subject had a control ratio of 1.5, the following ratios would occur based on the effectiveness of a preparation as an antiperspirant.

If the left is the treated axilla:

R/L = Calculated ratio		
1.5/1.0	1.5	0% effective
1.5/0.9	1.67	10% "
1.5/0.8	1.87	20% "
1.5/0.7	2.14	30% "
1.5/0.6	2.50	40% "
1.5/0.5	3.00	50% "
1.5/0.4	3.75	60% "
1.5/0.3	5.00	70% "
1.5/0.2	7.50	80% "
1.5/0.1	15.00	90% "
1.5/0.0	infinite	100% "

If the right is the treated axilla:

1.50/1	1.50	0% "
1.35/1	1.35	10% "
1.20/1	1.20	20% "
1.05/1	1.05	30% "
0.90/1	.90	40% "
.75/1	.75	50% "
.60/1	.60	60% "
.45/1	.45	70% "
.30/1	.30	80% "



GRAPH I

.15/1	.15	90% effective
.00/1	.00	100% "

Graph 1 shows a convenient way of calculating per cent effectiveness from ratio data.

Conclusions

1. Axillary perspiration can be collected quantitatively under normal conditions of activity.
2. Abnormal conditions such as exercise, humidity or temperature control are not necessary.
3. Direct collection and weighing of axillary perspiration is feasible.
4. Direct comparison of secretion, of control and treated axillary areas is significant in evaluating antiperspirant activity.
5. Studies show that left and right axilla of an individual do not perspire equally.

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Men's Toiletries

(Continued from page 29)

Such a product is the insect-repellent sun screen combination. Here is an example of two conditions which often exist simultaneously, since a vacation trip to a seashore point or into the woods brings about contact with insects and the sun. At least one material 2-ethyl hexanediol possesses both insect repelling properties and sun screening properties as well. However, it has been found by many formulations that mixtures of substances give better results, and some of the preparations pointed for men contain mixtures which cause the product to be effective over a larger range of insects. Without going into the characteristics of these entities which are easily procurable from the literature, a few examples may be given including the para-aminobenzoic acid esters, which possess analgesic properties as well as sun screening proyerties, salicylic acid esters as sun screens, and a recent trade-marked substance marketed by a Swiss company. All of these have proven valuable as sun screening agencies. This is in addition to the already mentioned 2-ethyl hexanediol. This latter is a good insect repellent as well but its specificity does not cover too complete a list of insects, and it therefore is usually used in conjunction with other substances such as dimethylphthallate which covers those insects the 2-ethyl hexanediol does not.

The vehicle for use as a men's preparation varies from a liquid solution or emulsion to a cream packaged in a tube. The tube seems the more desirable if it is to be used as part of camping equipment since it is not as likely to break. Preparations of this type are not easy to package in polyethylene containers since these substances are capable of filtering through them, unless they are incorporated in an oil in water emulsion where the water acts as an effective protective barrier to

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prevent this from happening. In any such formulation, the armed services at least have recognized that no chemical sun filter is effective enough for their purposes, by itself. The armed services specify the use of a physical barrier such as titanium dioxide as well. This extreme may not be necessary for most civilian purposes. It is mentioned merely to show that there are some extremes possible under which the chemical barriers do not perform adequately and that a manufacturer's praises of his product should be tempered by the facts.

A shampoo suitable for men need not differ in formulation from one meant for women, since the purpose of both is to clean the hair. One product which has only recently reached the market is packaged with a string attached so that the container may easily be hung over the water tap in the shower. This would suggest that most men would use whatever there is available at the time they decide to wash their hair, and that by making it possible to place the shampoo at a point within convenient reach, they may use it rather than the first available piece of soap. This may be only a personal analysis since I find myself using anything within reach rather than a product specifically developed for cleansing the hair. At any rate, I believe that a men's line shampoo should be one that may conveniently be used, and packaging in a polyethylene bottle would obviate the danger of breakage. Since the other functions to be embodied in a men's shampoo are no different from the usual shampooing problems the only other differences would be in the method of packaging. In this direction a plastic bottle properly designed for easy dispensing and easy availability would be the answer.

X-Ray Contrast Media

(Continued from page 33)

oils, and the iodine-containing organic compounds. This classification includes not only some of the most widely used radiographic opaques but also some of the more highly specialized visualization aids. The value of iodine preparations was well indicated by Arens[15] who pointed out that iodine has a high atomic weight and therefore casts a dense shadow on the x-ray film.

Sodium iodide contrast media have been replaced almost entirely by less irritating and less toxic preparations. Occasionally it finds employment in special procedures such as the method of abdominal arteriography employed by Wagner, Price and Swenson.[16]

Replacing the inorganic iodides are the halogenated oils, the best known being the iodized oils. In x-ray diagnosis, the iodized oils are especially valuable as contrast media in the localization of bronchial and pulmonary lesions, and in the determination of gynecological conditions. They find widespread use in the body cavities which communicate with the surface, being used to visualize the accessory nasal sinuses, the bronchial tract, the uterus, the Fallopian tubes, the genito-urinary tract, and empyemic and soft tissue cavities. They are also used in the roentgenologic diagnosis of tumors of the spinal cord. It is stressed[17]

that the use of iodized oils is essentially a surgical procedure, involving the introduction of a foreign body and therefore entailing a certain amount of risk. There are, therefore, certain cautions which must be borne in mind when using these agents.

Various vegetable oils may be used in preparing these materials. Depending on the method of iodination, the oil may contain iodine alone, or iodine and chlorine. Brominated oils, like Brominol, are also available. Iodized oils are quite viscid but, if desired, their viscosity may be reduced by the addition of ethyl oleate. Emulsification makes them water-miscible.

Iodized oil USP, available as Lipiodol, is probably the best known and most widely used member of this group. Lipiodol consists of 40 per cent organically combined iodine in poppy seed oil. Another preparation, Lipiodol Radiologique Ascendant, containing 10 per cent of iodine, finds rather specialized use as a contrast medium for the recognition of intradural tumors. Another member of this class, Lipoiodine, is a 60 per cent solution of iodobrassid, NNR in sesame oil. A combination of chlorine and iodine as the radiopaque halogens is available in Iodochlorol, a product formed by the addition of iodomonochloride to peanut oil.

Mention should also be made of Pantopaque. It consists of ethyliodophenylundecylate, an absorbable iodized fatty acid compound designed especially for myelography (x-ray examination of the spinal cord and subarachnoid spaces). Until further information is available, Pantopaque should not be used as a contrast medium for other body cavities.[18]

The third subgroup, the water-soluble organic iodine compounds, contains a somewhat larger number of useful agents, some of them having official (USP) and semi-official (NNR) status. Among these preparations, which are given orally or by injection, are the following: Diodrast (iodopyracet, NNR), Hippuran (sodium iodohippurate, NNR), Iodeikon (sodium iodophthalein, USP), Monophen, Neo-Iopax (sodium iodomethamate, USP), Priodax (iodoalphonic acid, USP), Skiodan Sodium (sodium methiodal, USP), and Urokon Sodium (sodium acetrizoate). Compounds of this group are extensively used for visualizing the urinary tract, the gall bladder and other organs.

For the purpose of illustration, Priodax has been selected as a typical representative of this class. A brand of iodoalphonic acid, USP, it is administered orally as a medium for visualizing the gall bladder (cholecystography). With less tendency to produce undesired side-effects than other, similar-acting agents, Priodax is excreted via the kidneys.[17] Chemically it consists of *beta*-(4-hydroxy-3, 5-diiodophenyl)-*alpha*-phenylpropionic acid. In a consideration of the chemical structure of this contrast medium, it has been noted[19] that Priodax combined the three characteristics desired in such an agent. Thus, it obtains the required solubility from the carboxyl component, affinity for the bile from the phenyl component, and opacity from the iodine component.

Certain of these agents as well as other compounds

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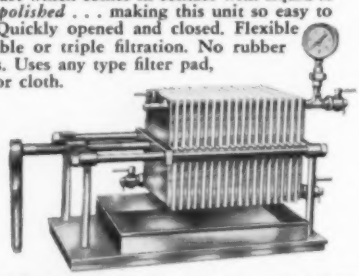

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of this class are present in preparations that are used, like the iodized oils, for visualizing body cavities with surface openings. Containing various thickeners to provide the required viscosity, these water-soluble preparations are designed to overcome such disadvantages of oily products as poor absorption and the ever-present danger of oil embolism.

Thus, Skiodan, thickened with gum acacia is particularly recommended as a contrast medium for examining the uterus and Fallopian tubes. Royals, Price and Titus[5] consider it the medium of choice for this purpose because it is rapidly absorbed and eliminated. Another water-soluble contrast medium of high viscosity, which is said to be free from irritating effects, was developed after several years of trial by Morales and Heiwinkel.[20] It consists of iodopyracet injection, USP, thickened with sodium carboxymethylcellulose, and containing Xylocaine as an anesthetic.

Also finding extensive use is the contrast medium available as Rayopake. It is a viscous, aqueous solution of the diethanolamine salt of 2,4-dioxo-3-iodo-6-methyl tetrahydropyridine-N-acetic acid. It is thickened with polyvinyl alcohol and contains benzalkonium chloride as a preservative. The high viscosity of Rayopake is of particular advantage in outlining the lumen of the uterus, tubes, bladder, and urethra, but it prevents its use in other body cavities.

Consideration of the purpose and method of visualizing various organs will further indicate the value of the several types of *x*-ray contrast media. It will also serve to indicate the means used to improve the effectiveness of certain of these materials.

Probably the most widely used contrast media are those employed to opacify the gastrointestinal tract. With the aid of these agents, which are given by mouth or by rectum, the roentgenologist obtains highly accurate and otherwise unavailable information on the condition of the gullet, stomach, intestines and colon. Ulcers, malignant and benign growths, obstructions, infections, herniations and developmental peculiarities can be detected. Abnormal conditions close to the tract, like pancreatic tumors, enlarged glands, cysts and such, can be seen indirectly because they may encroach on the outlines of the opacified organs.[21]

As already indicated, barium sulfate suspensions are the media most commonly used for the visualization of the gastrointestinal tract.[22]

Frequently, mucilaginous or similar substances are added to the barium sulfate to produce more homogeneous and stable suspensions.

German workers[25] have found that radiologic examination of the gastrointestinal tract is facilitated when pectins are employed as carriers and stabilizers in the barium sulfate preparations. A fine uniform film is formed over the mucosa, permitting differentiation of all the details and clearly showing contours. A preparation of this sort has been patented by Slaybough.[26] The Alexanders[27] have employed gastric mucin as a barium suspension medium. The resulting product has the property of more clearly defining small bowel

patterns. Others[28] have called attention to the potentialities of using micropulverized barium sulfate.

Impaction is an undesired complication of barium sulfate administration and a number of suggestions to prevent this condition have been recommended. To decrease the probability of dehydration and impaction of barium-containing feces in the colon, Wyatt[29] administers a saline cathartic with the contrast medium.

More recently, Marks[30] reported that when barium sulfate and 2.5 per cent of methylcellulose are well mixed and added to water, a permanent suspension is formed that does not dry or form impactions in the bowel.

Of course, other types of contrast media may be used for opacifying the gastrointestinal tract. Mention has been made of the use of thorium dioxide suspensions for this purpose. Nesbit and Lapides[31] have mentioned the use of the iodine-containing compound, Urokon, for visualizing the upper gastrointestinal tract in cases where barium is to be avoided. However, other iodinated compounds have been developed more or less specifically for opacifying the tract.[32] In tests of these agents, Jones and his colleagues[33] administered tetraiodophthalamidoethanol suspensions to a series of patients and observed that the media had certain advantages as compared to barium sulfate suspensions. Among these superiorities were greater palatability, better adherence to the bowel wall, and less tendency to dry and cause constipation.

Urography, the x-ray examination of the kidneys and ureters, is considered[1] to be one of the most useful contributions to medical diagnosis. Visualization of the urinary tract is obtained either by intravenous urography or by the retrograde introduction of contrast media by way of ureteral catheters. Although, as remarked by Avis,[6] the two forms are frequently complimentary, intravenous (excretory) urography is used in differentiating between urinary tract pathology and conditions outside the tract. Retrograde urography is used more often to obtain detailed information on disease or deformity of the kidney, pelvis and ureter.

Several organic iodine compounds that are nontoxic and rapidly excreted in the urine are available for intravenous injection and also for ureteral retrograde pyelography. Among such agents are Diodrast, Neo-Iopax and Skiodan Sodium. Urokon Sodium, a comparative newcomer, has been reported upon favorably in the recent literature[31-34] as a safe and satisfactory medium for intravenous and retrograde pyelography. Another preparation, Hippuran, is said to be suitable for oral administration when intravenous or retrograde urography is not feasible. It can, of course, be given by the other two routes.[17]

X-ray examination of the urinary bladder and urethra, or cystourethrography, has been described[35] as a valuable adjunct to other methods of examination of the lower urinary tract. In addition to providing information of lesions of the bladder, urethra and prostate,[36] this procedure is useful in determining the causes of enuresis[37] and other urinary dysfunctions.[38] While some workers[35] use iodized oils, the trend in

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cystourethrography seems to be toward the employment of newer, water-soluble media. Urologists[38,39,40] speak highly of the use of Rayopake, not only in the x-ray examination of adults, but of children and infants too.

To the gynecologist as well as the roentgenologist, uterosalpingography or hysterosalpingography is an important means of determining the condition of the uterus and Fallopian tubes. It is particularly useful in the study of sterility. Some[41] employ iodized oils with good results and no untoward reactions, while others[42,43] commend the newer compounds.

According to Sosman,[47] cholecystography is one of the most accurate of diagnostic tests. For this reason this roentgenologic procedure, which shows the presence of gall stones as well as the functioning of the gall bladder, enjoys wide popularity and application.[1] Such a status stems, in large measure, from the availability of suitable contrast media. As remarked by Jarvis and Cayer,[48] the development of radiopaque substances which are excreted in the bile when given orally or intravenously has been one of the greatest forward steps in the accurate diagnosis of gall bladder disease.

Visualization of the gall bladder calls for a nontoxic, nonirritant compound of specific composition. Compounds for this purpose contain iodine which is linked to an organic structure to give radiopacity, ensures prompt absorption, elimination in the bile and subsequent storage in the gall bladder to give x-ray visualization of this organ.[49]

The introduction of tetraiodophenolphthalein (iodophthalein, USP) was an important factor in the acceptance of cholecystography as a diagnostic procedure. Suitable for intravenous or oral administration, this agent is available in bulk from several sources and is also provided in ampoules under the Iodeikon brand name. Of growing importance[1,22,48] is the product available as Priodax. Indeed, in the opinion of Sosman,[47] with the advent of Priodax the intravenous method of administration has been abandoned in favor of the oral method, with simplification and universal acceptance of the test.

Other orally administered cholecystographic media are being developed.[50,51] One such agent, Monophen, was recently placed on the market. Another called Telepaque, is currently being evaluated clinically.[49]

Angiocardiography, or visualization of the cardiovascular system, calls for close teamwork, a high degree of experience, and considerable knowledge of the use of contrast media. With this procedure it is possible to study the position, size and shape of the heart chambers, valves and great vessels and to obtain information that was not formerly available.[52]

Diodrast is the agent most commonly used in this kind of roentgenology. As noted by Burford and Carson,[53] radiographic visualization of the heart and great vessels following intravenous injection of Diodrast is an established procedure. This agent is also employed, in less concentrated solutions, in venography or phlebography, a method which permits the x-ray study of the venous systems of the body.[54,55] In addition to

other applications, this procedure is useful for determining the presence of varicose veins[23,56] and in the localization of emboli.[1]

Diodrast and, to some extent, Thorotrast are employed for cerebral angiography.[1,57,58] Such x-ray visualization of the cerebral vascular tree is indicated in cases of spontaneous intracranial hemorrhage. It is also of great value in diagnosing vascular tumors and malformations, vascular occlusions, post-traumatic lesions and brain tumors.

Certain oily media, notably Lipiodol and Pantopaque, are used in contrast myelography or the x-ray study of the spinal canal, spinal cord tumors, and slipped vertebral discs. According to Camp,[59] Lipiodol is particularly suitable in the search for lesions in the thoracic vertebral canal, while Pantopoque is satisfactory for use in the lumbar and cervical regions.

The oily media are also employed in the x-ray diagnosis of certain respiratory tract conditions, particularly those involving the bronchi and the nasal sinuses. Advocating the use of Lipiodol, Poppe[60] has remarked that a good bronchogram will demonstrate bronchiectasis. It will also provide confirming evidence in the diagnosis of suspected peripheral lung tumor. Lipiodol and Iodochlorol are the radiopaque preparations commonly used for bronchography.[61] However, other agents are being investigated. Shippy,[62] for example, obtained visualization of the bronchial tree by means of Diodrast Compound Solution thickened with carboxymethylcellulose. Other workers[63] did experimental work which indicated the potential usefulness for making bronchograms of aqueous emulsions containing Pantopaque.

Sources of Proprietary Preparations Cited

Brominol: Abbott Laboratories, North Chicago.
Diodrast: Winthrop-Stearns, Inc., New York.
Hippuran: Mallinckrodt Chemical Works, St. Louis.
Iodeikon: Mallinckrodt Chemical Works, St. Louis.
Iodochloral: G. D. Searle & Co., Inc., Chicago.
Lipiodol: E. Fougera & Co., Inc., New York.
Lipoiodine: Ciba Pharmaceutical Products, Inc., Summit, N. J.
Monophen: National Synthetics, Inc., New York.
Neo-Iopax: Schering Corp., Bloomfield, N. J.
Pantopaque: Lafayette Pharmacal, Lafayette, Ind.
Priodax: Schering Corp., Bloomfield, New Jersey.
Rayopake: Hoffmann-La Roche, Inc., Nutley, N. J.
Skiabaryt: Merck & Co., Rahway, N. J.
Skiodan Sodium: Winthrop-Stearns, Inc., New York.
Telepaque: Winthrop-Stearns, Inc., New York.
Thorotrast: Heyden Chemical Corp., New York.
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(*Continued on page 122*)

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Unity Wanted

(Continued from page 35)

that this particular type of strophanthus was never located that saved the pharmaceutical manufacturers from being placed in an exceedingly dangerous position. Certainly, there seems to be valid reason why the manufacturers in this industry cannot stand together and present a united front to the FDA or any other Government agency which seeks to undermine them. The FDA seems to have been comparatively successful in getting what it wants from Congress, and this has been done by the classical "divide and conquer" method.

And due to what appears to be a fight of personalities in the retail branch of the drug industry, we find open division there. We find the executive secretary of the National Retail Druggists Association using the pages of the Association Journal for virulent attacks not only upon the secretary of the American Pharmaceutical Association, but also upon the manufacturers. This executive, who also releases these attacks widespread throughout the country, has aligned himself and his association with the FDA and is fighting with everything he has to give the FDA complete control over self-medication by authorizing the FDA to be the sole

arbiter of what drug products should be sold over-the-counter. Under the amendment to the Food, Drug, and Cosmetic Act, known as the Durham-Humphrey Bill, these decisions of the FDA as to how a drug could be dispensed by a druggist, would be reversable only if it could be proven to a court that the FDA had acted capriciously, oppressively, or in some similar manner—a thing just about impossible to prove.

But this particular executive of the N. A. R. D. thinks that such a grant of power to the FDA would benefit the pharmacist,—a point of view in which the A. Ph. A. does not agree. It seems that this executive has a quarrel with the manufacturers concerning the number of preparations which they require the druggist to carry, and this is his way of seeking to control them. However, in seeking to settle his score with the manufacturers, he destroys not only the unity existing in the retail field, but also in the entire industry, and battles savagely to hand the entire industry over to the enemy. It may seem strange that the one against whom this executive is most bitter, and the one which he seeks to control by this action is the ethical branch of the industry. While it is true that they would be materially affected by the enactment of such an amendment, and that such legislation would darken their future as a free agent very materially, the most devastating immediate effect would be felt by other manufacturers whose products do not move to any appreciable degree on prescription.

Whether it is because Federal Security Administrator Oscar Ewing whose compulsory health insurance program, is strongly backed by President Truman, is the ruling power of the FDA, and therefore FDA officials take their cue from him and try in every way to hamstring the drug industry is not definitely known, but it is widely thought to be the situation which prevails. Certainly the spirit of cooperation which developed immediately following the enactment of the Food, Drug, and Cosmetic Act in 1938, and which continued to flower for many years after, has just about entirely disappeared, and today there is real animosity existing, if not on the surface, at least underneath. And if anyone believes that the Food and Drug Administration is not opposed to self-medication, and that it will fail to use its full power "capriciously, arbitrarily, unreasonably, oppressively, and unlawfully," as was determined by Circuit Judge Bennett C. Clark, District Judge T. Alan Goldsborough, and District Judge Edward A. Tamm, in the Mytinger & Casselberry case, he just doesn't know what he is up against.

It is time that all types of drug manufacturers, all types of retail pharmacists, and all others having to do with the drug industry came to the full realization that the manufacture and distribution of drug preparations is an entity which is well worth preserving. And those who seek to gain temporary advantages by aligning themselves with those who would eventually destroy this industry as it now exists, should change their attitude before it is too late. It does not seem to be the part of wisdom in seeking to overcome the trend toward

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socialized medicine, to contribute huge sums of money to foundations and campaigns on the one hand, and then to work hand in glove with those who would absorb important segments of the drug industry, or with those whose apparent aim is the ruination of the industry as an entity so that socialized medicine could be brought about with far greater ease than is the case today.

Perfuming Aerosols

(*Continued from page 31*)

A rule generally followed is to avoid the use of alcohols in aluminum containers, because of the possibility of the formation of an aluminum alcoholate. Nevertheless, in the presence of some stable propellents, alcohols are usable, the propellent inhibiting the reactivity of the alcohol, or acting as a negative catalyst.

It is true that the perfume mixture is used in a relatively small percentage, generally ranging from 0.1 to 0.3 per cent, and that one ingredient in that perfume mixture might make up only 10 or 15 per cent of the formula. This would reduce the proportion of that ingredient to no more than two parts per ten thousand. Nevertheless, because corrosion attacks a particular spot rather than the entire container in an even manner, such a small percentage may have a nefarious effect leading to leakage.

We have tested perfume materials on the different parts of the containers that may be affected by their presence, such as the sealing compound, metal of the container, and valve parts. We have found that there are very few products that will not act with at least one of the materials in an aerosol container and affect its working properties. This is usually not as serious as it seems, due to the relatively small concentrations of a suitable perfume in an aerosol. The protection afforded by the low proportions, however, cannot extend to the corrosion problem.

When formulating perfumes for aerosols, no irritating essential oils or aromatics may be used. Due to the very fine spray and the particle size, materials which would be only slightly irritating under normal conditions become highly irritating when sprayed in aerosols. We have found quite a number of materials that are commonly used in perfumery, and that are considered non-irritating under normal conditions of employment, to be highly irritating when used in an aerosol spray. One example is benzyl benzoate, sufficiently non-irritating for use in skin preparations and in large proportions as a solvent, yet difficult to use because of its irritating effect in an aerosol.

Tests were conducted on the fixation of aerosols, utilizing materials that had been used as pre-fixatives for alcohol and perfumes. Our tests show that the concentration of 0.1 per cent of a 1 per cent solution of macrocylic musks had remarkable fixative properties. This actually involves one part per hundred thousand of such a musk. Most perfumers fear the use of macrocylic musks, except in high-class perfumery, because of the apparently prohibitive price. Nevertheless,

when it is considered that they are being used here in almost infinitesimal quantities, their cost as a fixative is not at all great.

On the other hand, the general reliance of the perfumer on relatively non-volatile materials is dangerous when applied to aerosols. The non-volatile fixatives, such as the resins, will affect solubility and will clog the valves and give rise to irritating factors. If the odorous effects contributed by the resins cannot be obtained without their use, it is valuable to extract the essential oil from the resin and use this oil instead of the resinous materials.

Aesthetic Considerations

In the perfuming of the insecticides, mothicides, etc., it is, of course, necessary to make the odor of the finished product as appealing as possible. The odor of the materials in the bombs, such as pyrethrum, lethanes, DDT, etc. must be covered, and the consumer must obtain an appealing note. The perfuming of the household air freshener is not as acute, due to the fact that, in most cases, the principles of the bombs have relatively little odor. The problem is then not one of coverage, but rather of incorporating an interesting, tenacious perfume.

Experience has demonstrated that the odorous effects obtained by the use of certain materials cannot be predicted on the basis of previous use in the long history of perfumery. It is well-known, for instance, that in very small proportions the odor of civet in an alcoholic perfume mixture becomes flowery and appealing. In an aerosol bomb, an extremely small proportion of civet retains and even intensifies its fecal character. Other examples of the unpredictable action of odorous materials could be cited, some such substances improving in their appeal, while others deteriorate in that respect.

It can be seen from the above that the perfuming of aerosols is not only a separate and a unique problem in perfumery but, perhaps more than most problems encountered by the perfumer, is a simultaneous challenge of both a chemical and an aesthetic nature.

Conclusion

It has been our experience that perfume compounds formulated for other uses had to be revised when used for aerosol work. When smelled from the bottle or blotter, these materials produce an olfactory stimulus different from that obtained after incorporation in the bombs. The individual notes in the different drying stages are obtained from bottle or blotter; whereas, when the material is sprayed under pressure, complete dissemination of the entire perfume compound is accomplished in an instant.

The same perfume compound has a different note when sprayed at different pressures and from different valve openings, and it is therefore necessary to revise a formulation when used for aerosols so that one can obtain the same note.

A perfume compound recommended for a certain type of aerosol work must be completely rechecked before

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it can be recommended for another type of aerosol, where the ingredients of the bomb may be of another nature. By the use of a different propellent or other materials, a different reaction with the perfume compound may be obtained.

The shelf test is irreplaceable in a study of aerosols. It is our experience that a shelf test should be conducted under normal storage conditions for a period of at least six months, and if the material has remained stable during that time, there is reasonable assurance that it will not deteriorate over a longer period. The shelf test should be conducted simultaneously with an accelerated test at a higher temperature, for which we have found 53° C. for a period of one month to be satisfactory. The simultaneous shelf test and accelerated test, together with the study under conditions of visibility, will determine not only whether any reaction takes place resulting either in a decomposition of the perfume oil or the deterioration of the bomb, but what are the factors causing such a reaction if it does take place. However, a shelf test is extremely time-consuming, and therefore the materials incorporated in a bomb and put to such a test should be chosen in such manner that there is reasonable assurance that the problems to be encountered and here enumerated have been successfully met.

Bearing these factors in mind, and as a result of our experimentation, our laboratories have developed perfume oils of various odor characters that are entirely satisfactory in the bombs for which they have been designed.

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The Fair Trade Puzzle

(*Continued from page 27*)

these stores will be unable to move their merchandise before a new season is upon them, although it is likely that the large stores bought some of these suits when the manufacturers refused to supply them with any more suits. Kline's in New York concentrated particularly on watches, selling such well-known brands as Longines-Witnauer, Bulova, and Benrus at about half the Fair Trade prices.

The use of these many items as loss-leaders undoubtedly moved much other merchandise for these stores. One had only to walk through Macy's basement to see the people attracted there by the low prices on small appliances busily buying other housewares which were not cut in price, and inspecting the major appliances which were being offered at prices which represented excellent profit margins. These stores proved once again that the use of nationally advertised goods as bait will draw in the crowds who will then buy other merchandise on which there are satisfactory profits.

However right or wrong this method of merchandising is, depending upon the point of view of the manufacturer, wholesaler, or retailer, there is no doubt that low prices move merchandise. And the more merchandise that moves, the better it is for the manufacturers in the long run. The only difficulty is trying to protect your own goods from becoming the football that is used in the manner in which Bayer's Aspirin has been used in New York.

But whatever injustices may result from this state of conditions, it does not appear that any help can be expected from the Administration in Washington. President Roosevelt signed the Miller-Tydings Bill most reluctantly and only because it was passed as a rider on an appropriations bill that he had to approve. Since that time the Federal Trade Commission and the Department of Justice have taken every opportunity presented to them to try and neutralize the bill's effectiveness, and finally the Department of Justice intervened successfully in the Schwegmann case.

Certainly no help can be anticipated from President Truman in strengthening the Miller-Tydings Act for he has taken full credit for the price wars in the following words:

"The recent price wars between department stores in certain cities are a good indication that our anti-inflation program is working. Without this program the scare buying, speculation, and excessive accumulation of inventories would almost certainly be going on."

One must remember that the attitude of the public toward these activities has been one of complete cooperation and evident pleasure. Anyone who doubts this fact should look at the lines of people in Macy's and Gimbel's buying Bayer's Aspirin, Gillette Blue Blades, Colgate's Tooth Paste, and other items sharply cut in price. Also anyone who doubts that low prices move merchandise should see the long line of people in Macy's buying the book, "From Here to Eternity." How many of these people would buy this book if it were not cut in price? The regular book stores have plenty of them which move comparatively at a snail's pace when the price is the same all over.

But these are the commercial aspects of the situation, and not the legal angle. The question is just how far can a manufacturer go in protecting his merchandise from becoming a loss-leader for a sharp retailer to use as bait in getting people into his store? It is significant, we believe, that two judges in New York City refused to issue immediate temporary injunctions when requested, but reserved decision to study the situation. Prior to the recent U. S. Supreme Court decision, such injunctions were immediately granted in all cases. And in the case of the injuction issued against Macy's in the action brought by a retail druggist to prevent Macy from cutting Fair Trade prices on goods made in New York State, Macy intends to fight this injunction on the grounds that the merchandise which they are selling, although made in New York State, came to Macy through a purchase made in another state. In other words, Macy claims that their goods were sold in interstate commerce, and therefore, cannot be price

controlled by the manufacturer or anyone else. Here is one type of legal controversy which could weaken the fair trade acts in various states.

Then there is the probability that the validity of the sections of the Fair Trade Acts which permit other than manufacturers to make contracts with retailers, might be questioned in the courts of the various states. In connection with this, the new plan announced by McKesson & Robbins Laboratories to attempt to control retail prices on items of their manufacture is interesting. The plan calls for making contracts with distributors under which these wholesalers agree:

1. Not to re-sell the company's products to their customers at less than minimum fair trade prices in the states where Fair Trade is in effect.

2. To require all their customers to enter into a contract to re-sell to the consumer at not less than the minimum retail price.

They have devised a simple contract by means of which they ask wholesalers to bind their customers to operate under the plan by showing on all their customers' invoices the following legend:

"Fair Trade Agreement. Purchaser, by accepting delivery from seller of any fair traded commodity, agrees not to re-sell such commodity, by direct or indirect means, at less than the prescribed net retail minimum price published by the producer or distributor whose trade-mark, brand or name appears on the commodity. This agreement not applicable to sales in Non-Fair Trade States or the District of Columbia."

It will be recalled that when the U. S. Supreme Court upheld the validity of the State Fair Trade Acts when this question came before it some years ago, the decision turned upon the property rights of manufacturers in their trade-marks. The decision did not turn on any injustices suffered by wholesale or retailers, but on the theory that the retailers and others had no right to use these trade-marks for their own purposes, when this use had the result of damaging or destroying the property rights which the manufacturers had in these marks. From this decision it appears that the making of contracts by others than manufacturers could well be challenged in the Federal Courts.

Another interesting situation has arisen in New Jersey where Wissbard Bros., a cut-rate drug retailer in Newark has been under injunction since June 1, 1937 not to cut prices of Johnson & Johnson goods. When the recent Schwegmann decision was handed down, Wissbard did not immediately cut prices on Johnson & Johnson in apparent violation of the injunction, but went into court and moved to vacate this injunction. Johnson & Johnson are fighting the motion to vacate the injunction, and are also suing to punish Wissbard for contempt of court in violating the injunction.

The motion to vacate the injunction was brought before Judge Stein who issued the injunction. Judge Stein had decided that the New Jersey interpretation of the Schwegmann decision may have national signifi-

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cance, and, therefore, wants full briefing, study and argument. Therefore, he has adjourned the case until September. The action to punish Wissbard for contempt has been brought before Judge Freund, as Judge Stein could not hear a motion for contempt of his own order.

Judge Stein indicated that in maintenance of the *status quo* he will hear applications for relief against price cutting by others. He seemed to appreciate that once price cutting has become rampant the legal issue before him may become academic, as general price cutting would give any particular defendant an equitable defense that he alone should not be singled out and obliged to maintain prices while others are cutting. It is obviously sound that the maintenance of Fair Trade minimum prices pending determination of the issues of law brought during the present period of uncertainty and confusion should be the generally accepted and invariable rule.

On the motion to punish for contempt, the two Wissbard brothers appeared personally and pleaded "not guilty." These actions were thought to be of such importance that the two New Jersey jurists suggested that they sit together in hearing arguments and deciding the case in September.

Since the Schwegmann decision did not invalidate the Miller-Tydings Act, but rather stated that its validity extended only to those who had actually signed contracts, the obvious way to maintain prices would be to obtain signed contracts from all who sell the goods of a particular manufacturer. But this is obviously impossible of accomplishment for a manufacturer many times has no way of knowing who sells his goods, and then there are retailers who refuse to sign any such contracts. The only other step is refusal to sell to a particular retailer who refuses to sign a contract, or refusal to sell a wholesaler who is known to be supplying the goods to known price-cutters. But it is an almost impossible task for a manufacturer to police all his wholesale and retail accounts, and manufacturers found before enactment of the Miller-Tydings Act, that this was rather a futile approach to the maintenance of retail prices.

Also the question of the right of a manufacturer to cut off an account from further purchases before he refuses to maintain prices in the face of the Schwegmann decision would have to be adjudicated. However, in the case of Adams Mitchell Co. vs. Cambridge Distributing Co. in the U. S. Circuit Court of Appeals for the second circuit, a decision written by Judge Augustus N. Hand, upheld this right of manufacturers on May 31, 1951—ten days after the Schwegmann decision was handed down. The case concerned liquor, and Justice Hand said in part:

"It may be conceded that agreements made between sellers, or between a seller and his customers, to fix the resale price of goods moving in interstate commerce, so far as it is not exempted by the Miller-Tydings Amendment, violate the Sherman Act, e.g. Kiefer-Stewart Co. v. Seagram & Sons. But the evidence

here does not indicate such an illegal agreement. There are legitimate means of price maintenance in spite of the provisions of the Sherman Act, e.g., United States v. Colgate. Such means include a refusal to sell in the future to those who had not maintained a suggested price. The situation in Kiefer-Stewart Co. v. Seagram & Sons, was different for there competitors agreed on a price with the latter. There was no evidence that the defendant agreed with Branded or Gilman that the prices to be charged by them would be limited to $54.80 per case. If there was an agreement to that effect between the plaintiff and the defendant which Sager denied, such an agreement did not purport to control the prices of Branded and Gilman and indeed went no farther than to suggest that if the latter cut prices they would be unable to obtain further supplies of Auld Malcolm from the defendant; in other words, the limitation of $54.80 per case was and only could be a suggested limitation to a purchaser which was lawful under the decision of the Supreme Court in the Colgate case."

The dissenting opinion in this case was written by Judge Frank. But nothing in his dissent presented the inference that the right of the manufacturer to choose his customers has been outlawed. Therefore it appears to be perfectly legal to notify a customer that further supplies will not be sent to him for the reason that he is not maintaining prices. However, it would be more satisfactory if this matter were adjudicated by the U. S. Supreme Court.

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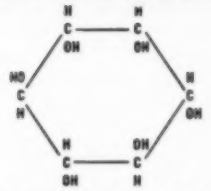

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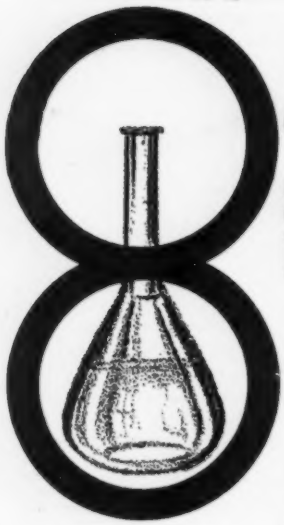

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